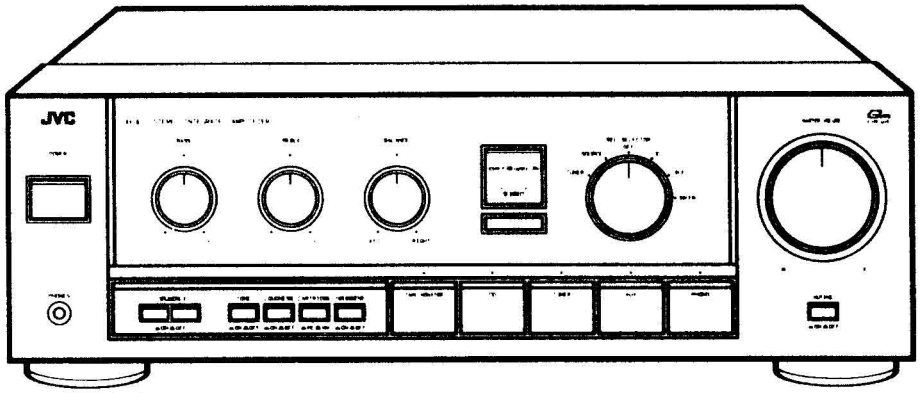
JVC

# SERVICE MANUAL

STEREO INTEGRATED AMPLIFIER

## MODEL No. AX-611BK



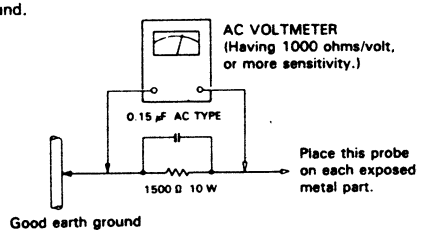
## Contents



No. 20114
May. 1989

# Safety Precautions

1. The design of this product contains special hardware and may circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by ( ⚠ ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).




# Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.





# Specifications

**AX-611BK**
**OVERALL CHARACTERISTICS**

Output power

140 watts per channel into 4 ohms at 1 kHz (DIN)

90 watts per channel into 8 ohms at 1 kHz (DIN)

**85 watts per channel, min. RMS, both channels driven, into 8 ohms from 20 Hz to 20 kHz, with no more than 0.007% total harmonic distortion. (U.S.A. and Canada only)**

85 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.003% total harmonic distortion. (measured by JVC Audio Analyzer System)

| | |
|---|---|
| Total harmonic distortion | : 0.007% (20 Hz — 20 kHz, 8 ohms) at 85 watts |
| Intermodulation distortion | : 0.007% (60 Hz : 7 kHz = 4 : 1, 8 ohms) at 85 watts |
| Power band width | : 5 Hz — 50 kHz (IHF, 0.05%, 8 ohms both channels driven) |
| Frequency response | : 5 Hz — 80 kHz +0, −3 dB (8 ohms) |
| Damping factor | : 90 (1 kHz, 8 ohms) |
| Input terminals | |
| Input sensitivity/ impedance (1 kHz) | |
| PHONO (MM) | : 2.5 mV/47 kohms |
| PHONO (MC) | : 200 μV/100 ohms |
| CD/AUX/ TUNER/TAPE 1, 2 | : 200 mV/43 kohms |
| Signal-to-noise ratio | |
| PHONO (MM) | : 85 dB ('66 IHF) |
| PHONO (MC) | : 66 dB ('66 IHF) |
| CD/AUX/ TUNER/TAPE 1, 2 | : 104 dB ('66 IHF) |
| PHONO (MM) (REC OUT) | : 81 dB ('78 IHF) |
| PHONO (MC) (REC OUT) | : 73 dB ('78 IHF) |
| CD/AUX/ TUNER/TAPE 1, 2 (SP OUT) | : 76 dB ('78 IHF) |
| PHONO (MM) | : 67 dB (DIN) |
| CD/AUX/ TUNER/TAPE 1, 2 | : 68 dB (DIN) |
| Tone controls | : TREBLE: +8 ±1 dB, −8 ±1 dB (at 10 kHz) |
| | BASS: +8 ±1 dB, −8 ±1 dB (at 100 Hz) |
| Lourness controls (Volume control at −30 dB position) | : +6 dB (at 100 Hz) |

**EQUALIZER**

| | |
|---|---|
| PHONO overload capacity | |
| PHONO (MM) | : 100 mV (0.02% THD) |
| PHONO (MC) | : 8 mV (0.04% THD) |
| PHONO RIAA deviation | |
| PHONO (MM) | : ±0.3 dB (20 Hz — 20 kHz) |
| PHONO (MC) | : ±0.5 dB (20 Hz — 20 kHz) |
| Recording output Output level/ impedance | |
| TAPE REC-1, 2 | : 200 mV/Maximum 1 kohms |

**GENERAL**

| | |
|---|---|
| Dimensions | : 435 (W) x 147 (H) x 356 (D) mm (17-3/16" x 5-13/16" x 14-1/16") |
| Weight | : 10.2 kg (22.5 lbs.) |

Design and specifications subject to change without notice.

**OPEN-AIR STEREO HEADPHONES HA-CD7**
The JVC HA-CD7 Open-Air high-quality Stereo Headphones (optionally available) are recommended for use with this unit.

**POWER SPECIFICATIONS**

| Areas | Line voltage & frequency | Power consumption | |
|---|---|---|---|
| | | | AX-611BK |
| U.S.A. | AC 120 V ∿, 60 Hz | | 440 watts/ 560 VA |
| Canada | | | |
| U.K. | AC 240 V ∿, 50 Hz | | 770 watts |
| Australia | | | |
| Continental Europe | AC 220 V ∿, 50 Hz | | 320 watts |
| Other areas | AC 110/127/220/240 V ∿ selectable, 50/60 Hz | | |

# TROUBLESHOOTING

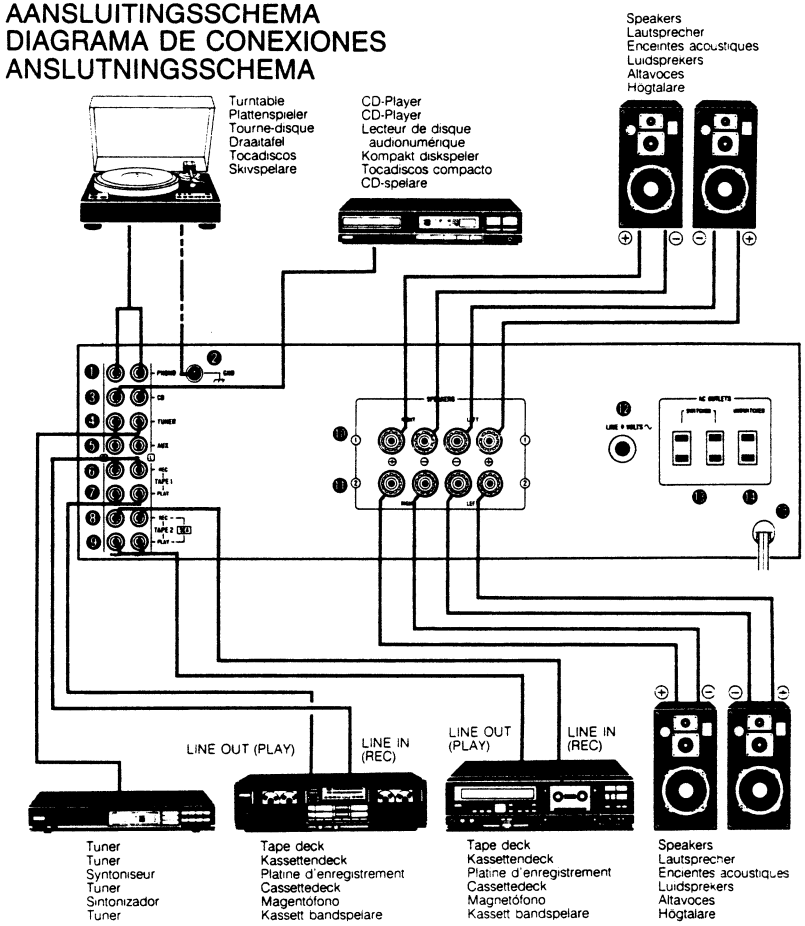
**What appears to be a malfunction may not always be serious.**
**Make sure first . . . .**

**No sound and no light**
Is the AC plug connected properly?
Are the connections made correctly?
**No sound from speakers**
Are speaker cords connected?
Are the SPEAKERS buttons correctly set?
Is the VOLUME control properly set?
Is your source component correctly set?
**Sound from one speaker only**
Are speaker cords connected correctly?
Is BALANCE control set to one extreme or the other?
**Loud hum during record playing**
Is turntable grounded?
— Try to change cord path.
**Howling noise during record playing**
Is turntable too close to a speaker?





# CONNECTION DIAGRAM
# ANSCHLUSSDIAGRAMM
# SCHEMA DE RACCORDEMENTS
# AANSLUITINGSSCHEMA
# DIAGRAMA DE CONEXIONES
# ANSLUTNINGSSCHEMA



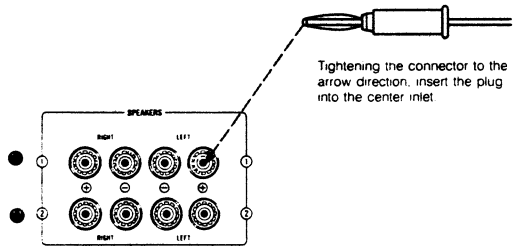
# REAR PANEL

- PHONO terminals
- GND terminal
  If your turntable has a ground lead, connect it to the GND terminal
- CD terminals
- TUNER terminals
- AUX terminals
- TAPE 1 REC terminals
- TAPE 1 PLAY terminals
- TAPE 2 REC terminals
- TAPE 2 PLAY terminals
- SPEAKERS 1 terminals
- SPEAKERS 2 terminals
- AC line voltage selector (LINE ↓ VOLTS ~)*
- SWITCHED AC OUTLETS**
- UNSWITCHED AC OUTLET**
- Power cord
  (*Not provided on units for U.S.A., Canada, Continental Europe, the United Kingdom and Australia.)
  (**Not provided on units for Continental Europe, the United Kingdom and Australia.)

**Notes:**

1. **Switch the power off when connecting any component.**
2. **Connect source components with left and right channels connected correctly. Reversed channels may degrade the stereo effect.**
3. **Connect speakers with correct polarity; (+) to (+) and (–) to (–). Reversed polarity may degrade the stereo effect.**
4. **Connect plugs or wires firmly. Poor contact may result in hum.**
5. **Do not connect the power plugs of components which have a total power consumption exceeding the value indicated on the rear panel.**
6. **Use speakers with the correct impedance. The correct impedance is indicated on the rear panel of the AX-511BK/AX-611BK.**
7. **The SWITCHED AC outlets are switched off when the front-panel POWER button is switched off.**
8. **The UNSWITCHED AC outlet is not switched off when the front-panel POWER button is switched off.**

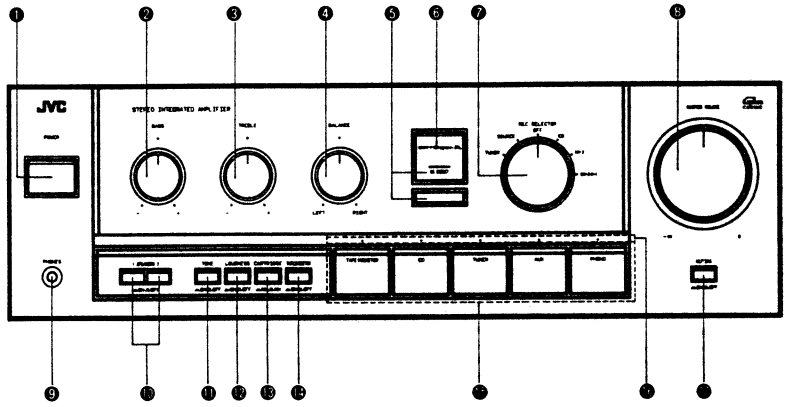
**Connecting to speaker terminals with BANANA plug.**
(Only for USA and Canada)








# FRONT PANEL
# FRONTPLATTE
# PANNEAU AVANT
# VOORPANEEL
# PANEL DELANTERO
# FRAMPANEL



# FRONT PANEL

These instructions are prepared for two models: AX-511BK/AX-611BK.
Therefore, read the items below concerning each model.

● **POWER**
Press this button to turn the power on.
To turn the power off, press it again.

**Notes:**
- **When power is not supplied to this amplifier for 2 — 3 days, the source select button pressed before the power was switched off may be lost when the power is switched on again. If this happens, set the buttons, etc. again.**
- **An electronic source selector is used in this unit. When the POWER button is first switched on, two or more sources or no source may be selected. Make sure to input the source select data by pressing one of the source selectors.**
- **If the POWER button is pressed repeatedly to switch on and off too quickly, the same phenomenon as the above will occur.**

● **BASS**
Turn clockwise to boost bass response and counterclockwise to decrease it.

● **TREBLE**
Turn clockwise to boost treble response and counterclockwise to decrease it.

● **BALANCE**
Balances the volume between the left and right speakers. Usually set it to the center click position.

● **CD DIRECT and indicator**
Press this button to enjoy listening to the CD with good sound quality. The indicator lights and the signal fed from the CD terminals is directly connected to the volume, bypassing the circuits on the way, thus allowing you to enjoy listening to an improved sound quality.

**Note:**
- **While the CD DIRECT button is pressed, the reproduced sound does not change even if the source selector (including TAPE 2 MONITOR) and BALANCE volume are operated, press the CD DIRECT button again to turn the indicator off when using these.**

● **[illegible] indicator**
Pressing the POWER button to on, this indicator lights.

● **REC SELECTOR**
**TUNER:** Set to this position to record broadcasts while listening to another source.
**SOURCE:** Set to this position to record from sources connected to the PHONO, CD, TUNER or AUX terminals.
**OFF:** Set to this position when you are not recording or dubbing.
**CD:** Set to this position to record CD while listening to another source.
**1 ▶ 2:** Set to this position to dub from the deck TAPE 1 to TAPE 2.
**S ▶ 2 ▶ 1:** Set to this position to dub from the deck TAPE 2 to TAPE 1 and record the source selected with the SOURCE SELECTOR onto the deck TAPE 2.

● **MASTER VOLUME**
Controls the volume of the speakers and headphones.

● **PHONES (Headphones jack)**
Plug stereo headphones into this jack for private listening.
If you want to listen to sound from the headphone only, press the SPEAKERS buttons to "OFF".

● **SPEAKERS**
Press to switch the speakers connected to the SPEAKERS 1 or 2 terminals on ( ▬ ) and off ( ▭ ).

● **TONE**
**ON ( ▬ ):** Press to adjust the tone with the BASS and TREBLE controls.
**DEFEAT ( ▭ ):** Press to this position to obtain a standard (flat) frequency response.

● **LOUDNESS**
**ON ( ▬ ):** To compensate for the ear's lower sensitivity at low listening levels.
**OFF ( ▭ ):** To bypass the LOUDNESS circuit.

● **CARTRIDGE**
**MC ( ▬ ):** Press in when using an MC cartridge having an output of less than 0.5 mV.
**MM ( ▭ ):** Press again when using an MM or MC cartridge having an output of more than 0.5 mV.

● **TAPE 2 MONITOR**
**ON ( ▬ ):** Set to this position to listen to the tape deck connected to the TAPE 2 terminals of this unit. If your tape deck is of the 3-head type, you can monitor the recorded sound while recording by setting this button to ON.
**OFF ( ▭ ):** Keep this button set to this position except when you want to listen to the tape deck connected to the TAPE 2 terminals of this unit.

● **Source selector**
**TAPE 1 MONITOR**
Press to listen to a tape deck connected to the TAPE 1 terminals.
**CD**
Press to listen to the source connected to the CD terminals.
**TUNER**
Press to listen to radio broadcasts by a tuner connected to the TUNER terminals.
**AUX**
Press to listen to the source connected to the AUX terminals.
**PHONO**
Press to listen to records played by a turntable connected to the PHONO terminals.

● **Source indicator**
The indicator corresponding to the source select button pressed lights.

● **MUTING (AX-611BK only)**
**ON ( ▬ ):** Press to mute the sound (−20 dB). Use this button when answering the telephone, for example.
**OFF ( ▭ ):** Press again to return the volume level to that adjusted with the MASTER VOLUME control.





# OPERATION

**Before operation, always be sure to set VOLUME at minimum.**
**When the volume is increased after selecting a source position with no equipment connected to the input terminal, other connected devices (such as speakers) may be adversely affected by external noise and inductive hum.**

## Listening to broadcasts

1. Connect a tuner to the TUNER terminals on the rear panel.
2. Press the POWER button on.
3. Press the TUNER button and make sure that the TAPE 1 MONITOR and TAPE 2 MONITOR buttons are set to off.
4. Select the speaker system with the SPEAKERS switches.
5. Operate the tuner according to its instruction manual.
6. Adjust the VOLUME, LOUDNESS, BALANCE and BASS/TREBLE controls.

## Listening to records

1. Connect a turntable to the PHONO terminals on the rear panel.
2. Press the POWER button on.
3. Set the CARTRIDGE ● button of this unit according to the cartridge in use.
4. Press the PHONO button and make sure that the TAPE 1 MONITOR and TAPE 2 MONITOR buttons are set to off.
5. Select the speaker system with the SPEAKERS switches.
6. Operate the turntable according to its instruction manual.
7. Adjust the VOLUME, LOUDNESS, BALANCE and BASS/TREBLE controls.

## Listening to tapes

1. Connect a tape deck to the PLAY terminals of TAPE 1 or TAPE 2.
2. Press the POWER button on.
3. Press the TAPE 1 MONITOR button to play back the TAPE 1 deck. For playback of the TAPE 2 deck, press the TAPE 2 MONITOR button to ON ( ▬ ).
4. Select the speaker system with the SPEAKERS switches.
5. Operate the tape deck for playback according to its instruction manual.
6. Adjust the playback sound controls as required.

**Note:**
- **Do not place the tape deck directly on the amplifier, because it may cause the amplifier to malfunction.**

## Using stereo headphones

Stereo headphones can be plugged into the front panel jack. Plugging headphones into the PHONES jack does not switch off the speaker sound.

## Recording tapes

**— Recording from records —**
1. Connect a tape deck to the REC terminals of the TAPE 1 or TAPE 2 terminals.
2. Press the POWER button on.
3. Select a speaker system if you wish to hear the sound while recording.
4. Press the PHONO button.
5. Operate the turntable.
6. Operate the tape deck for recording.

**— Recording from other sources (TUNER, CD, AUX) —**
Press the TUNER, CD or AUX button to record radio broadcasts, or the source connected to the CD, AUX terminals.
All other operations are identical to when recording from disc source.

**Note:**
- **To record from CD, turn the source selector to "CD". It is possible to monitor the high quality sound by pressing the CD DIRECT button. When monitoring other sources while recording, press the CD DIRECT button again to turn the indicator off.**

**— Recording from other sources (PHONO, TUNER, AUX) while listening to the CD —**
1. Select the source that you wish to record to from among the PHONO, TUNER and AUX button.
2. Operate the tape deck for recording.
3. Press the CD DIRECT button.

## Tape dubbing

Dubbing from the TAPE 1 to TAPE 2 is carried out as follows:
1. Press the TAPE 1 MONITOR button.
2. Play back the TAPE 1 deck.
3. Operate the TAPE 2 deck for recording.

You can perform tape dubbing while listening to the CD by pressing the CD DIRECT button in addition to the above operations.

**Notes:**
- **The sound you hear from the speakers or headphones is the source sound, not that being recorded on the tape.**
- **The VOLUME control of this amplifier has no effect on the recording level. Adjust the recording level with the controls on the tape deck.**

## How to operate the monitor while recording on the tape deck

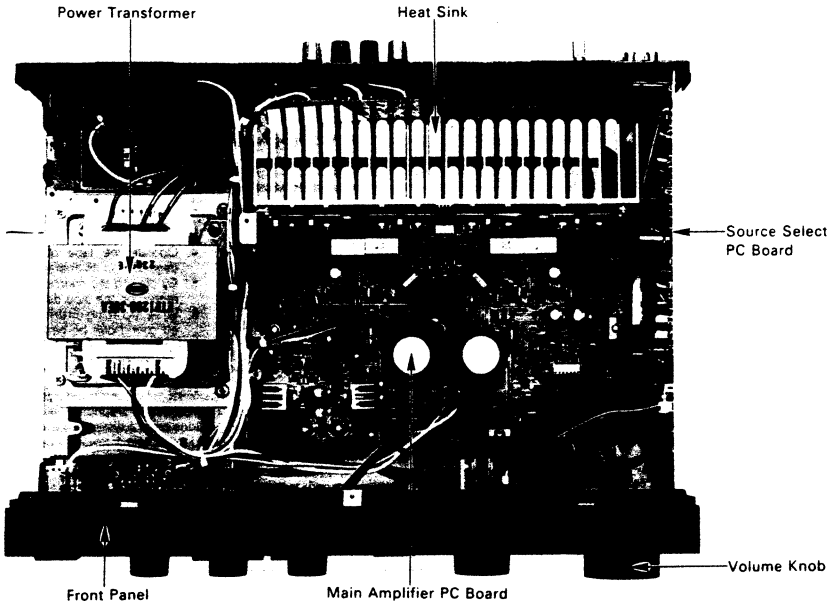
1. Connect a 3-head tape deck to the TAPE 1 or TAPE 2 terminals.
2. Make sure to connect the signal cords to the PLAY and REC terminals.
3. Select the source from which you want to record by depressing the source select button on this unit.
4. Operate the tape deck for recording as described in its operating manual.
5. By playing the source component, you can record on the tape deck.
6. While recording on the tape deck, the recorded sound can be heard by depressing the TAPE 1 MONITOR or TAPE 2 MONITOR button on this unit.

## Use of S.E.A. Graphic Equalizer

The S.E.A. Graphic Equalizer is JVC's exclusive tone control system. By allowing you to independently boost or lower the response of finely divided sections of the frequency spectrum: the S.E.A. gives you much greater control over the sound quality of your stereo system. With an optionally available S.E.A. Graphic Equalizer, you can tailor the sound to your own taste for different types of music or to compensate for the particular acoustic characteristics of your audio components and listening room.
The TAPE 2 terminals of the AX-511BK or AX-611BK can be used for connecting the S.E.A. Graphic Equalizer.

**Note:**
- **Even if the S.E.A. Graphic Equalizer is operated while the CD DIRECT button is pressed, reproduced sound is neither adjusted nor compensated. When using the S.E.A. Graphic Equalizer, press the CD DIRECT button once again to turn the indicator off.**

# Removal Procedures




## ■ Removing the Top Cover

1. Remove six screws.
2. Remove the top cover by lifting up its rear section and pulling it backward while holding it on incline.

## ■ Removing the Front Panel

1. Remove the top cover.
2. Pull out the volume knob.
3. Remove three plastic rivets on the upper part of the front panel and three screws from the lower part.

## ■ Removing the Bottom Cover

1. Remove 19 screws fixing the bottome cover.

## ■ Removing the Source Select PC Board

1. Remove the top cover.
2. Remove four screws fixing the pin jacks.
3. Remove the fastenner from the source select pc board.
4. Pulling the source select pc board toward you.

## ■ Removing the Power Transistors

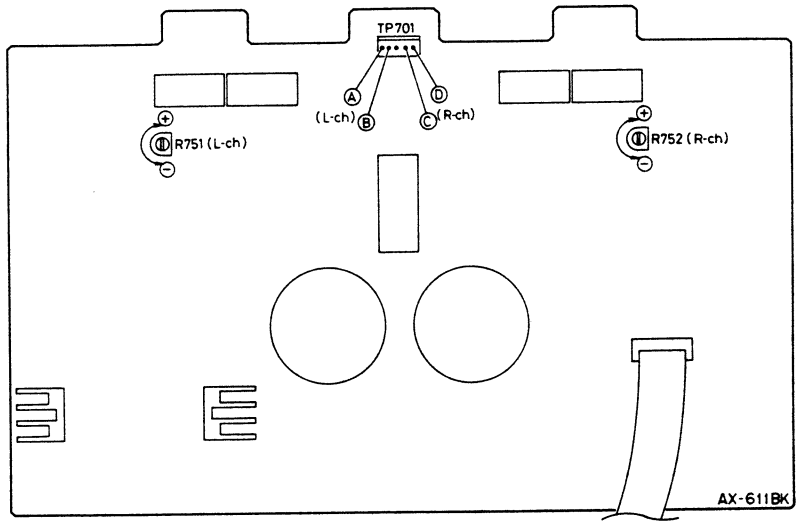
1. Remove the top cover.
2. Remove the bottom cover.
3. Remove the retaining screw from the defective power transistor and replace it.





# Adjustment Procedures

## ■ Power Amplifier Idling Adjustment




1. Before turning on the power, turn the semi-fixed resistors (R751 for L channel and R752 for R channel of the power amplifier circuit board fully counterclockwise.

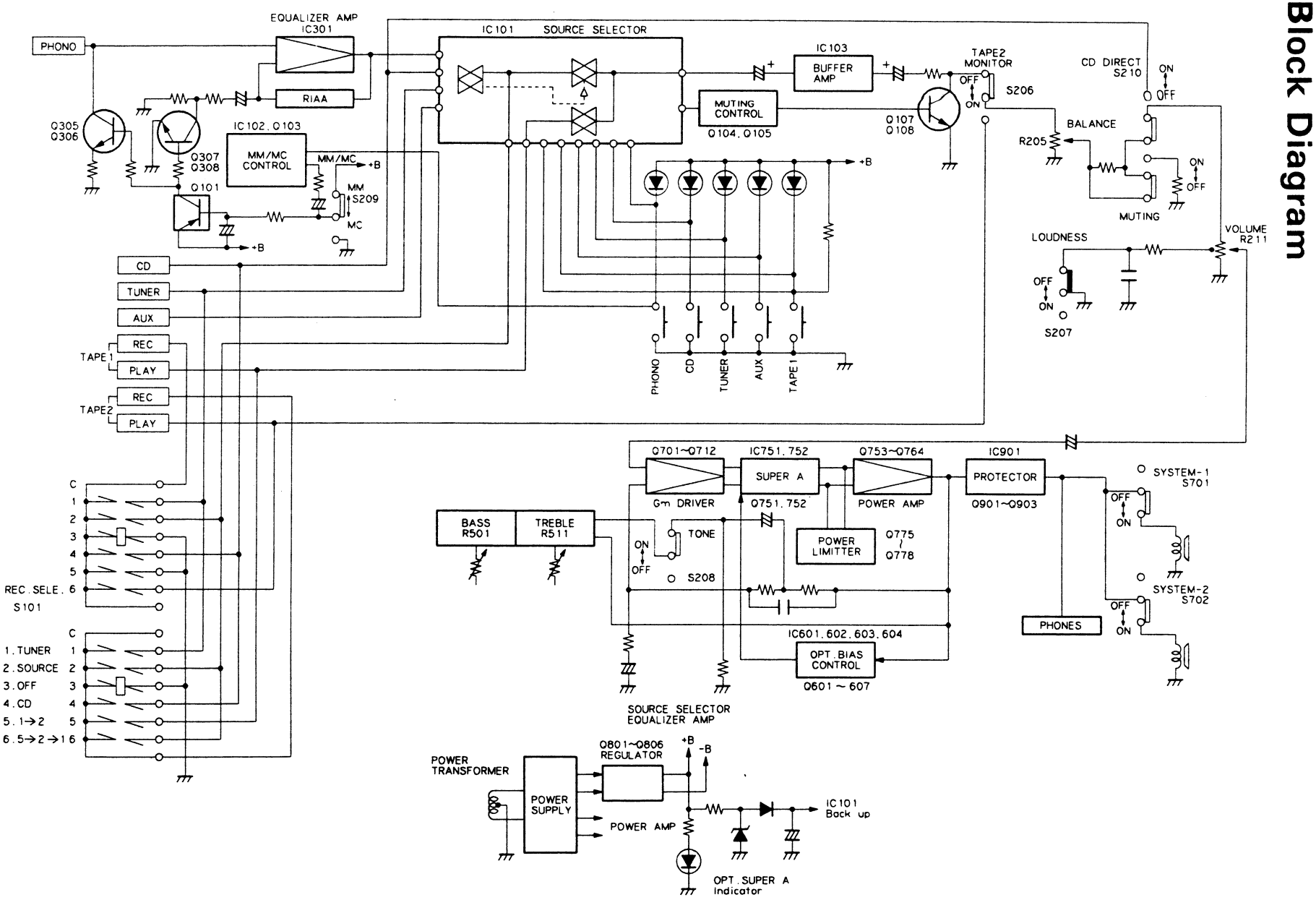
2. Adjust the semi-fixed resistor (R751 and R752) so that the voltage at the following test points of the power amplifier circuit board is within a range of 1 ~ 3 mV after the power is turned on.
   L channel : Measure the voltage between test point Ⓐ (emitter of Q901) and output at the test point Ⓑ.
   R channel : Measure the voltage between test point Ⓓ (emitter of Q902) and output at the test point Ⓒ.

3. Readjust resistors R751 and R752 about 10 minutes after the power is turned on (the heatsink temperature must be sufficiently high) so that the voltage at the test points becomes 11 mV.
   Confirm that the voltage does not vary when the heatsink temperature increases further.

   **Note :** Be sure to perform the measurement with the probes and cabinet of the measuring equipment separated from the grounding terminals of AX-611BK or other measuring equipment.

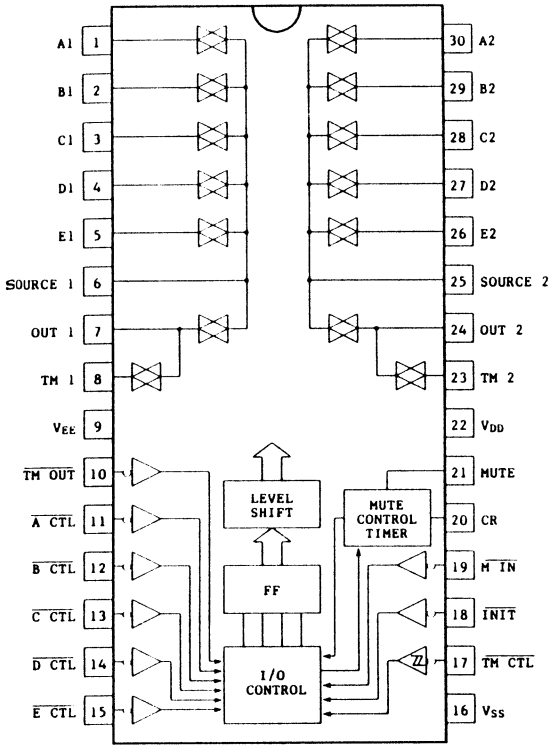
Since this set is a parallel balanced (push-pull) amplifier, check idling current of all the transistors after the above adjustment is performed.

# Block Diagram

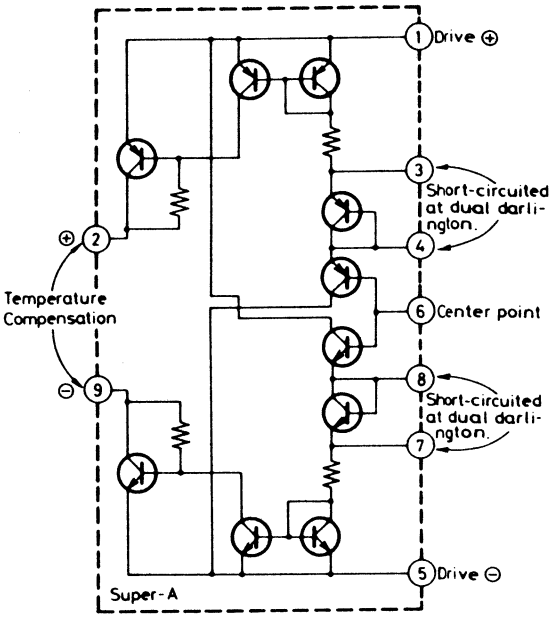


# Internal Block Diagrams of ICs

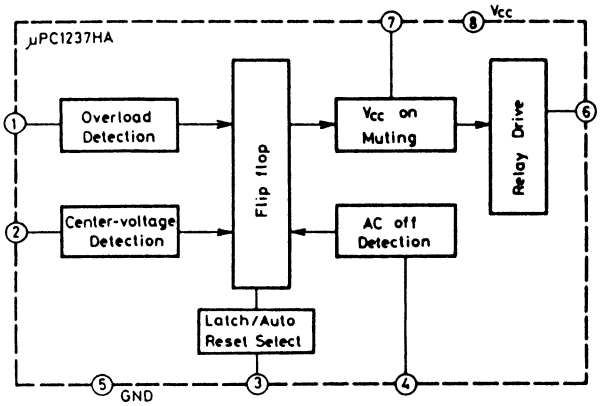
## ■ LC7818 (IC101): Analog Switch



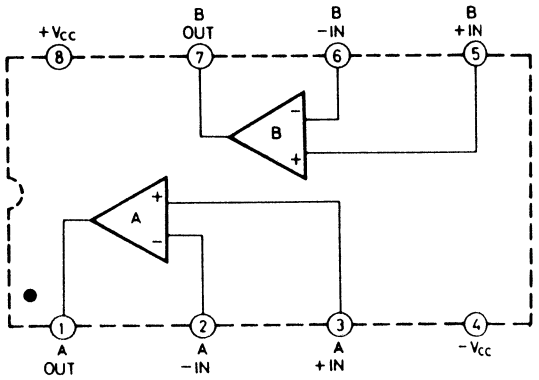

## ■ VC5022 [X, Y] (IC751, IC752): Super-A



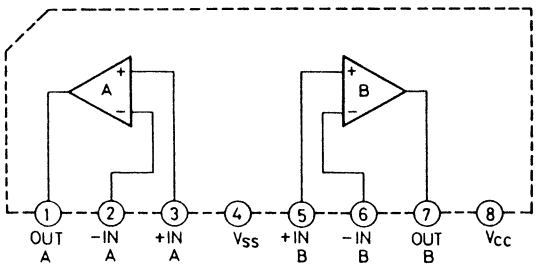

## ■ μPC1237HA (IC901): Relay Driver



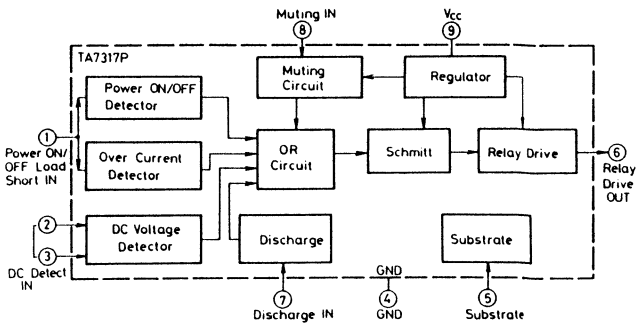

## ■ NJM4560DD (IC301): Dual OP Amp.



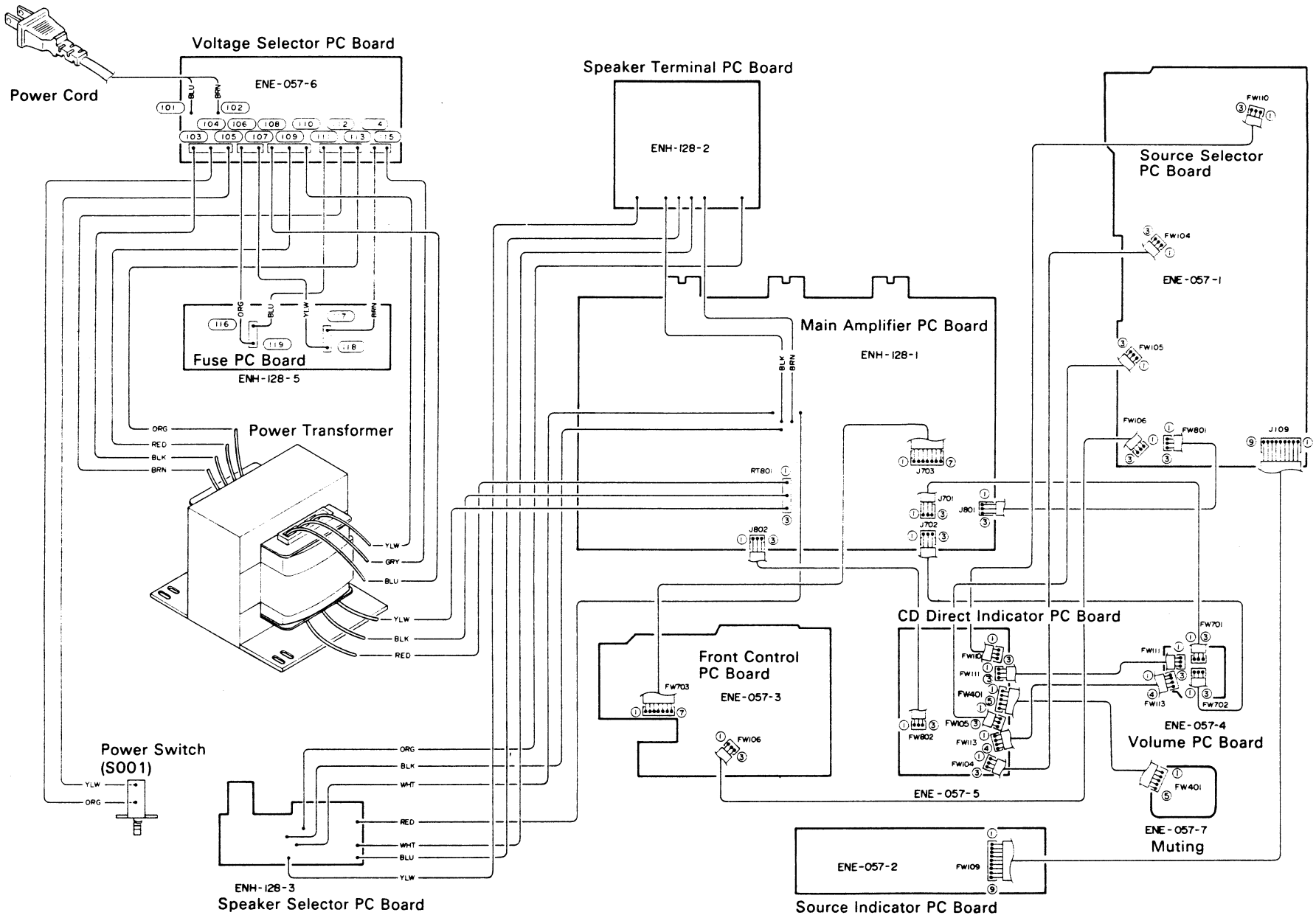

## ■ M5218L-R (IC103) : Dual OP Amp.
## ■ BA15218N (IC601, 602): Dual OP Amp.




## ■ TA7317P (IC102): Driver

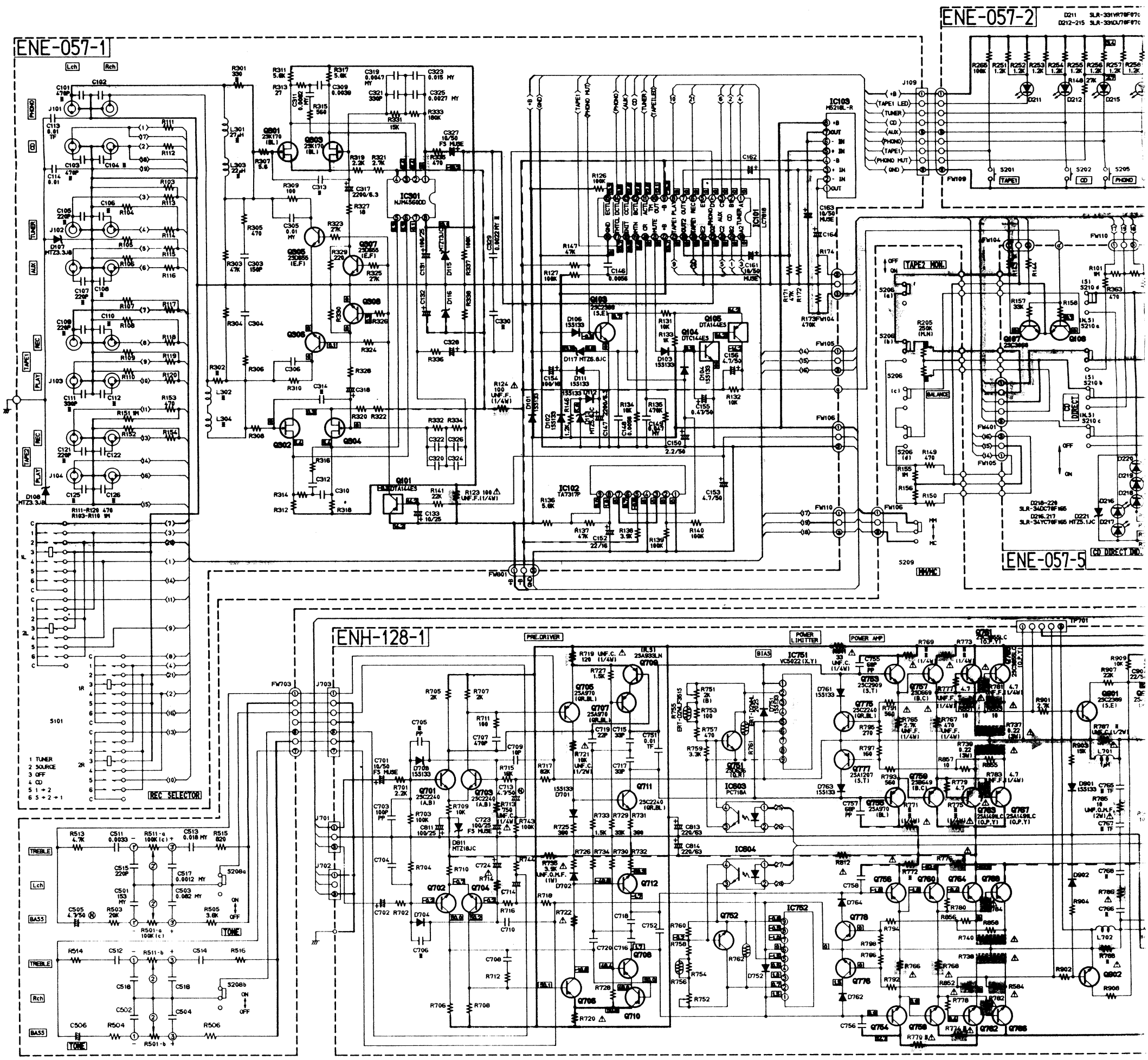


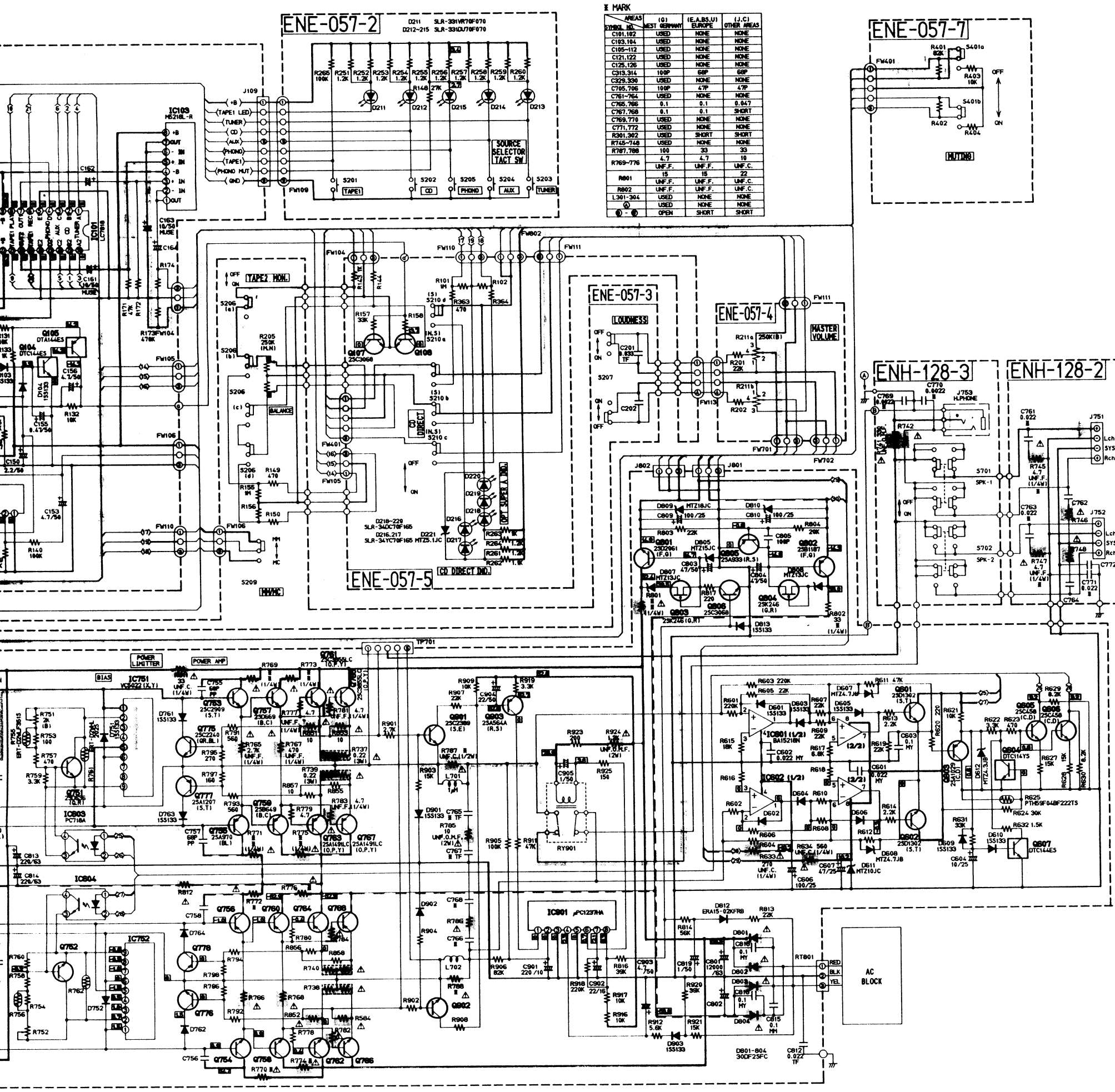
# Connection Diagram



# Schematic Diagrams

## ■ Source Select and Main Amplifier Section

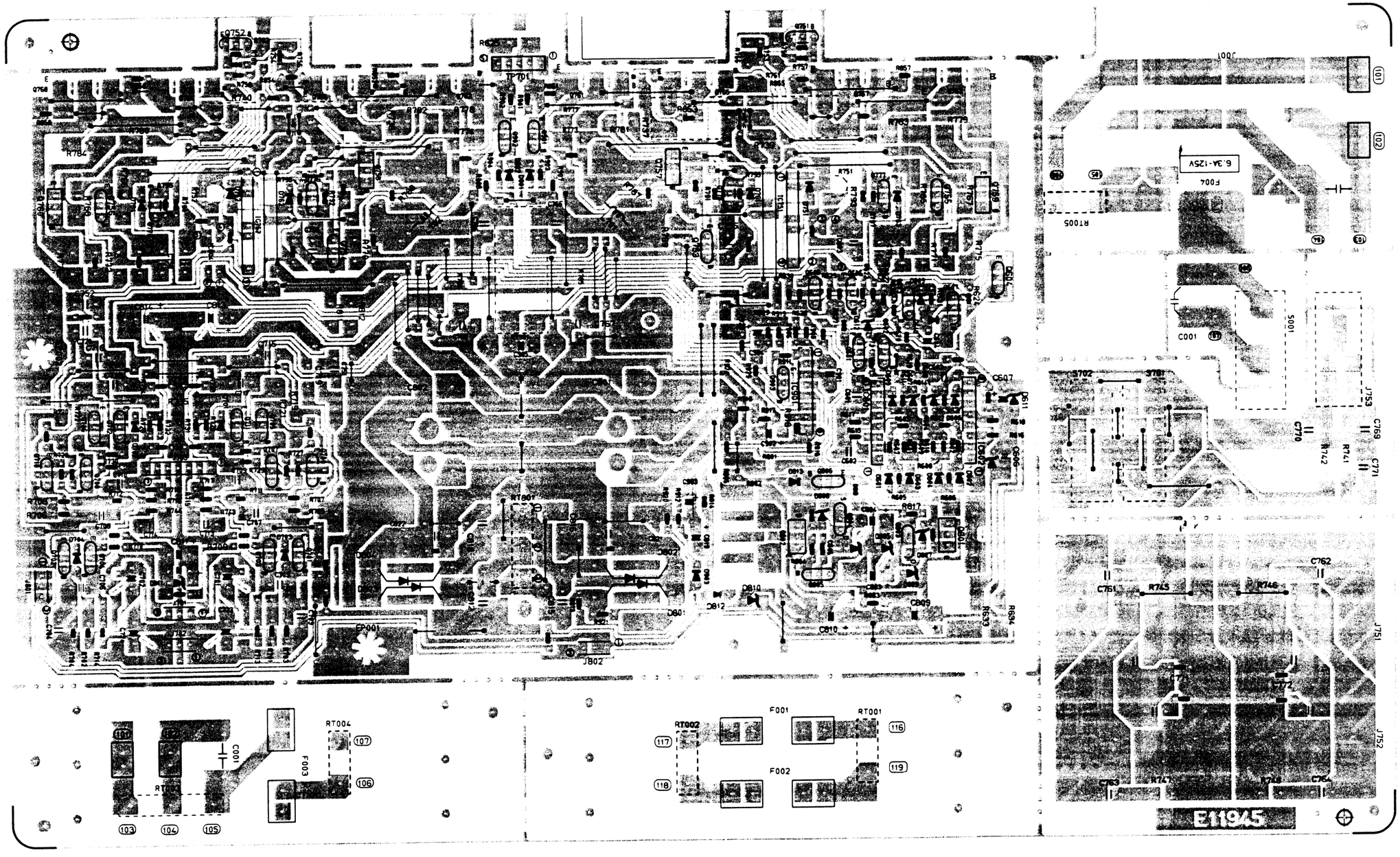





※ MARK

| AREAS / SYMBOL NO. | (G) WEST GERMANY | (E,A,BS,U) EUROPE | (J,C) OTHER AREAS |
|---|---|---|---|
| C101,102 | USED | NONE | NONE |
| C103,104 | USED | NONE | NONE |
| C105~112 | USED | NONE | NONE |
| C121,122 | USED | NONE | NONE |
| C125,126 | USED | NONE | NONE |
| C313,314 | 100P | 68P | 68P |
| C329,330 | USED | NONE | NONE |
| C705,706 | 100P | 47P | 47P |
| C761~764 | USED | NONE | NONE |
| C765,766 | 0.1 | 0.1 | 0.047 |
| C767,768 | 0.1 | 0.1 | SHORT |
| C769,770 | USED | NONE | NONE |
| C771,772 | USED | NONE | NONE |
| R301,302 | USED | SHORT | SHORT |
| R745~748 | USED | NONE | NONE |
| R787,788 | 100 | 33 | 33 |
| R769~776 | 4.7 UNF.F. | 4.7 UNF.F. | 10 UNF.C. |
| R801 | 15 UNF.F. | 15 UNF.F. | 22 UNF.C. |
| R802 | UNF.F. | UNF.F. | UNF.C. |
| L301-304 | USED | NONE | NONE |
| Ⓐ | USED | NONE | NONE |
| Ⓑ - Ⓑ | OPEN | SHORT | SHORT |

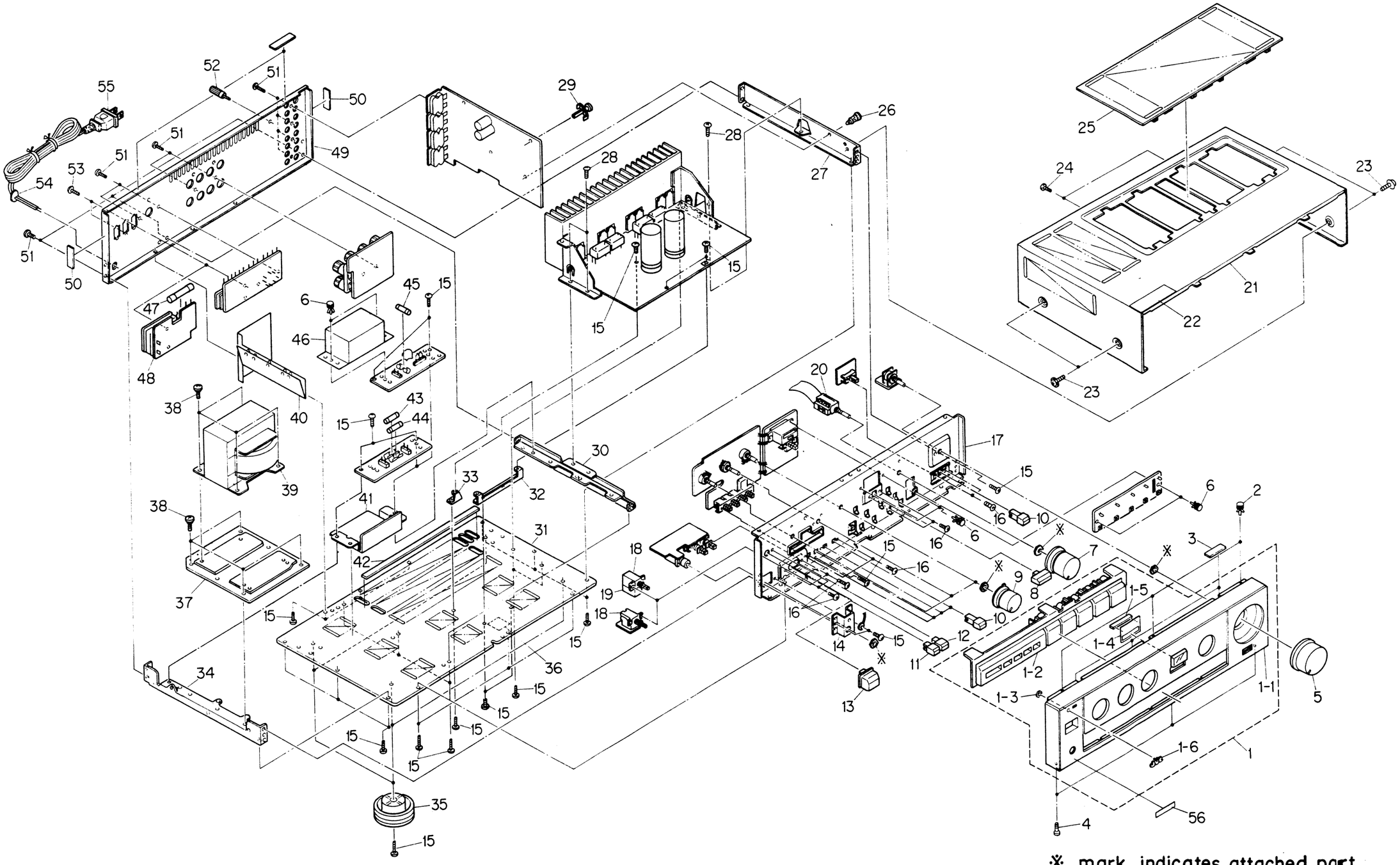
## ■ Main Amplifier PC Board (ENH-128)



# PARTS LIST

## Contents

# Exploded View and Parts List




※ mark indicates attached part.

| ⚠ | Item | Part Number | Part Name | Q'ty | Description | Areas |
|---|---|---|---|---|---|---|
| | 1 | EFP-AX611BKE | Front Panel Ass'y | 1 | | |
| | 1-1 | E26392-002 | Front Panel | 1 | | |
| | 1-2 | E26332-003 | Push Button Ass'y | 1 | | |
| | 1-3 | E60912-003 | Speed Nut | 1 | | |
| | 1-4 | E75327-001 | Indicator Sheet | 1 | | |
| | 1-5 | EXO032003N10S02 | Spacer | 1 | | |
| | 1-6 | E72968-001 | JVC Mark | 1 | | |
| | 2 | E48729-009 | Plastic Rivet | 3 | | |
| | 3 | EXO060007N40S | Felt Spacer | 3 | | |
| | 4 | SBSG3006M | Screw | 3 | | |
| | 5 | E305980-001 | Volume Knob | 1 | | |
| | 6 | E48729-008 | Plastic Rivet | 4 | | J, C |
| | | E48729-008 | Plastic Rivet | 6 | | Except J, C |
| | 7 | E305982-002 | Knob | 1 | | |
| | 8 | E75117-001 | Push Button | 1 | | |
| | 9 | E305981-002 | Knob | 3 | Tone | |
| | 10 | E75182-001 | Push Button | 5 | Tape | |
| | 11 | E75073-001 | Push Button | 1 | SPK-1 | |
| | 12 | E75073-002 | Push Button | 1 | SPK-2 | |
| | 13 | E75079-001 | Power Button | 1 | | |
| | 14 | E75186-001 | Head Phone Bracket | 1 | | |
| | 15 | SBSG3008CC | Screw | 31 | | J, C |
| | | SBSG3008CC | Screw | 35 | | ExceptJ, C |
| | 16 | SBST3006CC | Screw | 10 | | |
| | 17 | E11954-001 | Front Bracket | 1 | | |
| | 18 | QSP1106-005 | Push Switch | 1 | S001 | Except J, C, BS |
| | | QSP1106-005BS | Push Switch | 1 | S001 | BS |
| | 19 | E71005-001 | Switch Cover | 1 | | Except J, C |
| | 20 | QSR2B16-E02 | Flex Rotaly | 1 | | |
| | 21 | E26269-002 | Metal Cover | 1 | | U, E, EF, BS |
| | | E26269-003 | Metal Cover | 1 | | J, C, A, G |
| | 22 | E67000-005 | Caution Label | 1 | | |
| | 23 | E61660-004 | Spacial Screw | 4 | | |
| | 24 | SBSG3008M | Screw | 2 | | |
| | 25 | E24134-008 | Grill | 1 | | U, E, EF, BS |
| | 26 | E303216-001 | Fastener | 1 | | |
| | 27 | E305801-001 | Side Bracket | 1 | Right | |
| | 28 | GBSB3008CC | Screw | 3 | | |
| | 29 | E69384-002 | Fastener | 1 | | |
| | 30 | E305802-001 | Center Bracket | 1 | | |
| | 31 | E26268-002 | Bottom Cover | 1 | | |
| | 32 | E75341-001 | Circuit Board Bracket | 1 | | |
| | 33 | E68587-008 | Bracket | 1 | | |
| | 34 | E305800-001 | Side Bracket | 1 | Left | |
| | 35 | E75088-001 | Foot Ass'y | 4 | | |
| | 36 | E72081-001 | Caution Label | 1 | | J |
| | | E70115-002 | Caution Label | 1 | | U, E, EF, A, G, BS |
| | 37 | E306183-001 | Trans Bracket | 1 | | |
| | 38 | E65389-004 | Special Screw | 8 | | |
| ⚠ | 39 | ETP1200-36JA | Power Transformer | 1 | T001 | J, C |
| ⚠ | | ETP1200-36FA | Power Transformer | 1 | T001 | U |
| ⚠ | | ETP1200-36EA | Power Transformer | 1 | T001 | E, EF, A, G |
| ⚠ | | ETP1200-36EABS | Power Transformer | 1 | T001 | BS |
| | 40 | E305986-001 | Protect Cover | 1 | | U |
| | | E305986-002 | Protect Cover | 1 | | E, EF, A, G, BS |
| | 41 | E75439-001 | Protect Cover | 1 | | Except J, C |
| | 42 | EXO255005N60S02 | Spacer | 1 | | |
| ⚠ | 43 | QMF51E2-4R0J1 | Fuse | 1 | F001 | U |
| ⚠ | 44 | QMF51A2-8R0J1 | Fuse | 1 | F002 | U |
| ⚠ | 45 | QMF51E2-4R0J1 | Fuse | 1 | F003 | E, EF, A, G |
| ⚠ | | QMF51E2-4R0J1BS | Fuse | 1 | F003 | BS |
| | 46 | E306171-001 | Protect Cover | 1 | | Except J, C |
| ⚠ | 47 | QMF61U1-8R0 | Fuse | 1 | F004 | J, C |
| | 48 | E69589-010 | Spacer | 1 | | J |
| | 49 | E26340-004 | Rear Panel | 1 | | J, C |

⚠: Safety Parts



| ⚠ | Item | Part Number | Part Name | Q'ty | Description | Areas |
|---|---|---|---|---|---|---|
| | | E26340-005 | Rear Panel | 1 | | U |
| | | E26340-006 | Rear Panel | 1 | | E, EF, A, G, BS |
| | – | E303260-198 | Rating Label | 1 | | E, EF, G |
| | 50 | EXO040010R10S10 | Spacer | 2 | | |
| | 51 | E73273-001 | Screw | 9 | | Except U |
| | | E73273-001 | Screw | 11 | | U |
| | 52 | E70078-001 | GND. Terminal | 1 | | |
| | 53 | SDSB30C8M | Screw | 2 | | J, C, U |
| ⚠ | 54 | QHS3876-162 | Cord Stopper | 1 | | Except BS |
| ⚠ | | QHS3876-162BS | Cord Stopper | 1 | | BS |
| ⚠ | 55 | QMP1480-200 | Power Cord | 1 | | J, C |
| ⚠ | | QMP7520-200 | Power Cord | 1 | | U |
| ⚠ | | QMP3900-200 | Power Cord | 1 | | E, EF, G |
| ⚠ | | QMP2560-244 | Power Cord | 1 | | A |
| ⚠ | | QMP9017-008BS | Power Cord | 1 | | BS |
| | 56 | E49267-001 | Origin Marking Label | 1 | | BS |
| | – | E74247-004 | Caution Label | 1 | | J |
| | – | E67199-001 | Caution Label | 1 | | J |
| | – | E65507-001 | Caution Label | 1 | | C |

⚠: Safety Parts

| The Marks for Designated Areas | |
|---|---|
| J·····the U.S.A | E, EF····· Continental Europe |
| C·····Canada | BS····· the U.K. |
| A·····Australia | U·····Other Countries |
| G·····West Germany | No mark indicates all areas. |

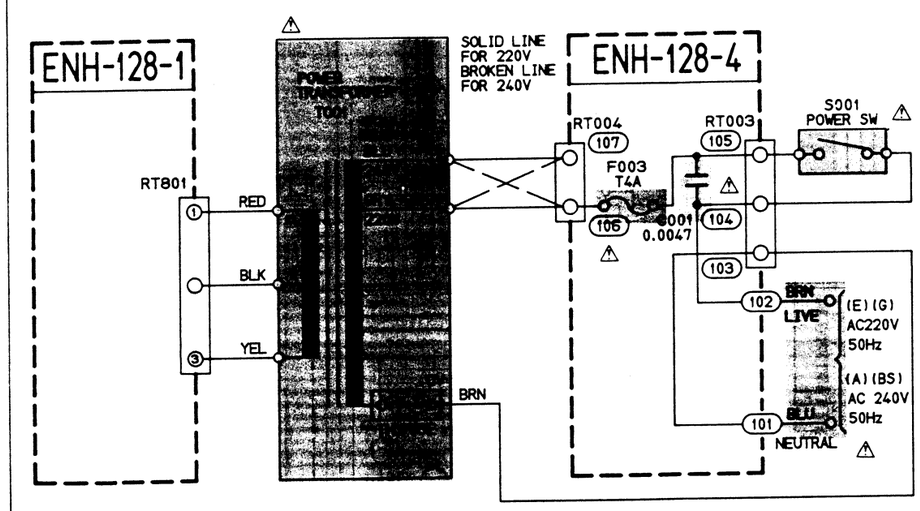
## Power Supply Section

**Notes:**

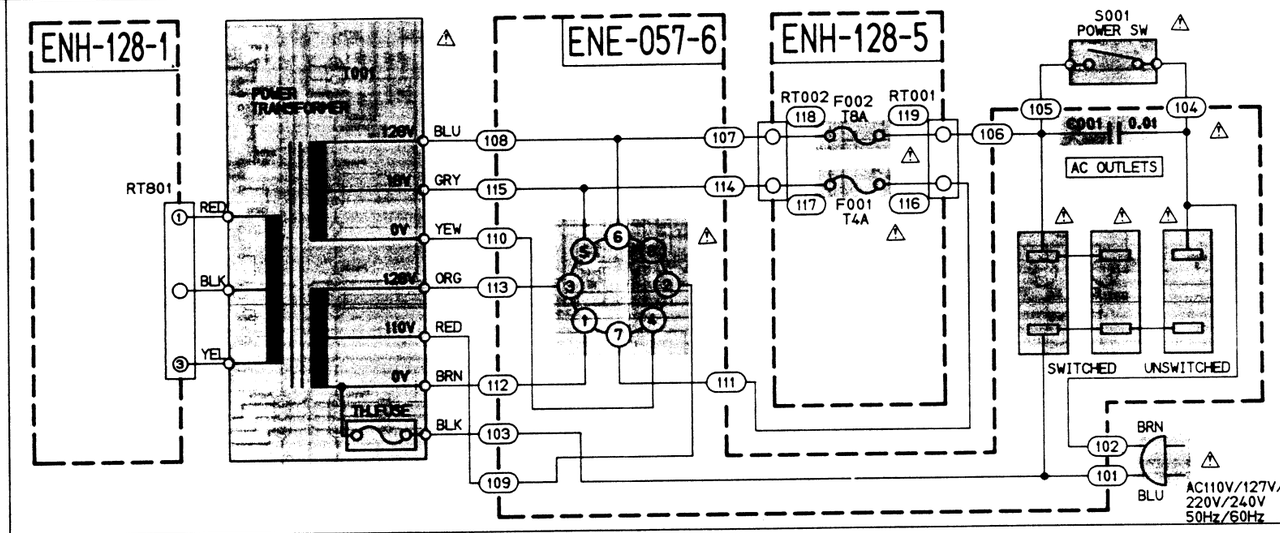
1. ——— indicates + B power supply.
2. — — — indicates − B power supply.
3. ▭ indicates signal path.
4. ▒ shows DC voltage to the chassis with no signal input.
5. When replacing the parts in the darkened are ( ▒ ) and those marked with ⚠, be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram. The design and contents are subject to change without notice.

# POWER SUPPLY BLOCK

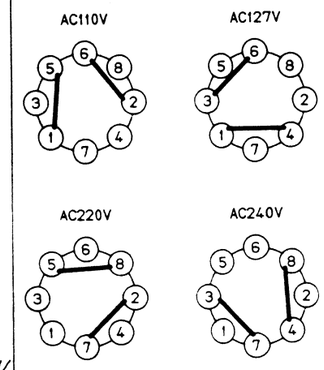
(E.G.A.BS) (E.G) FOR EUROPE (A) FOR AUSTRALIA (BS) FOR U.K. AC220V.50Hz AC240V.50Hz



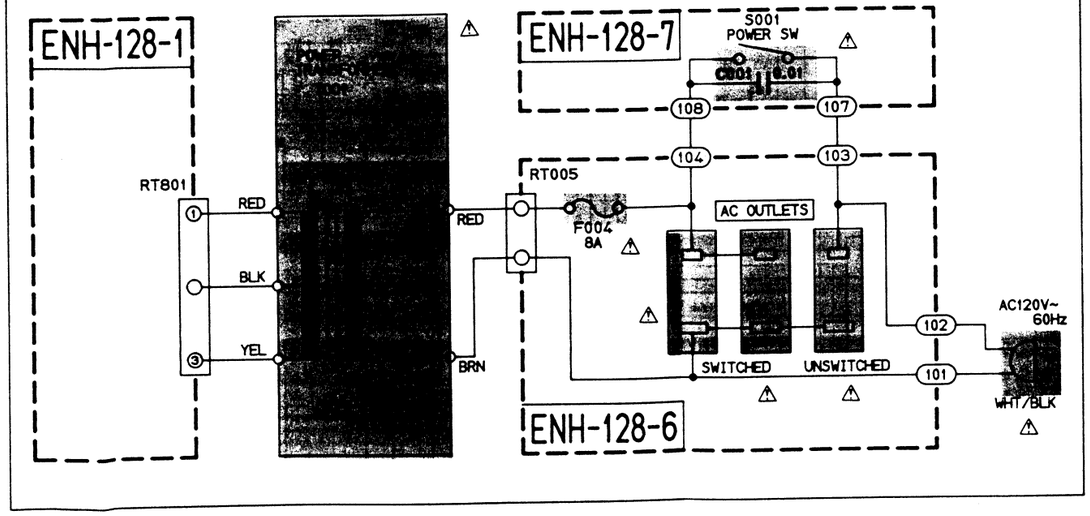

(U) (U) FOR OTHER COUNTRIES AC110/127/220/240V.50/60Hz




VOLTAGE SELECTOR CONNECTION

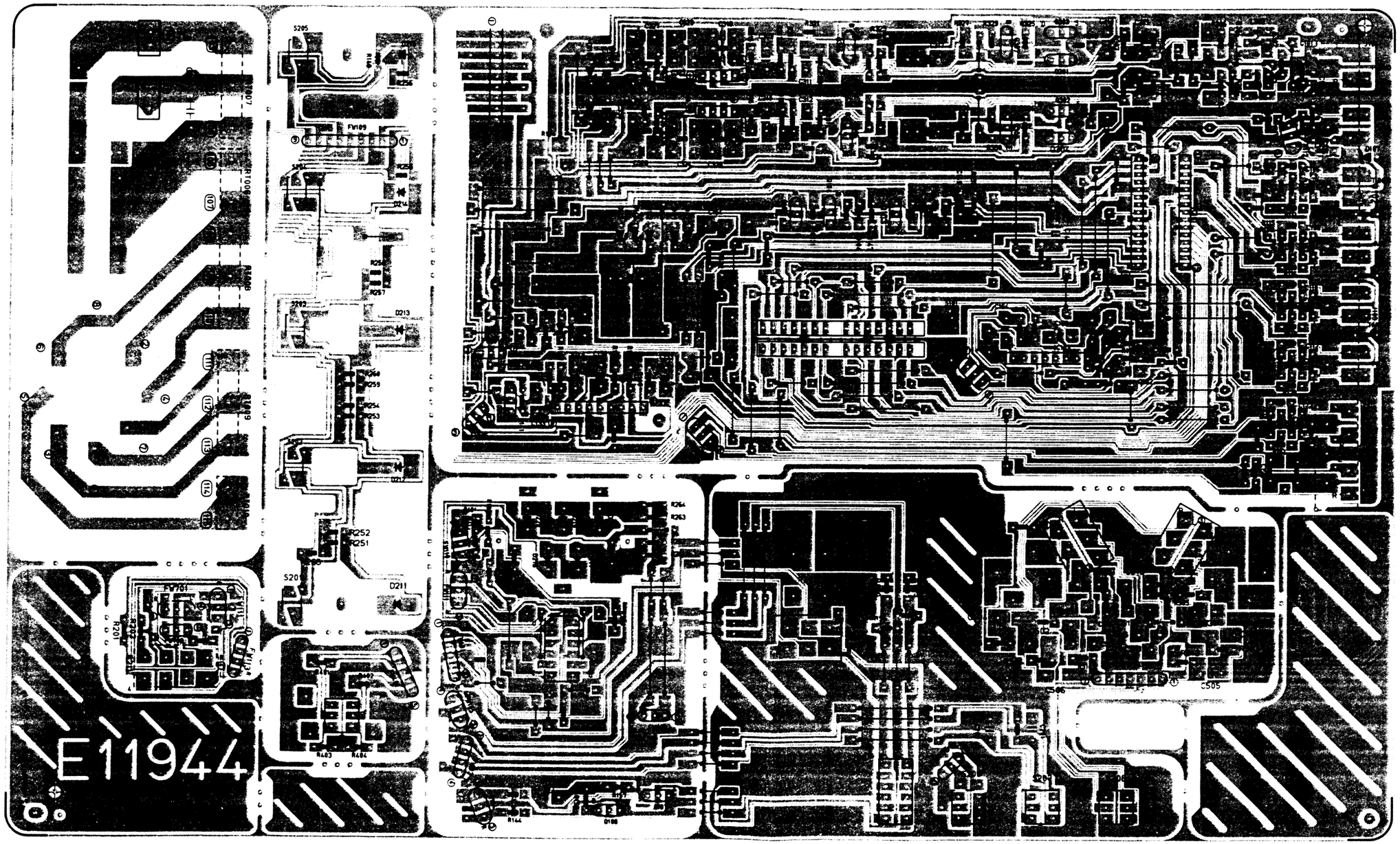



(J.C) (J) FOR U.S.A. (C) FOR CANADA AC120V.60Hz



# Printed Circuit Boards

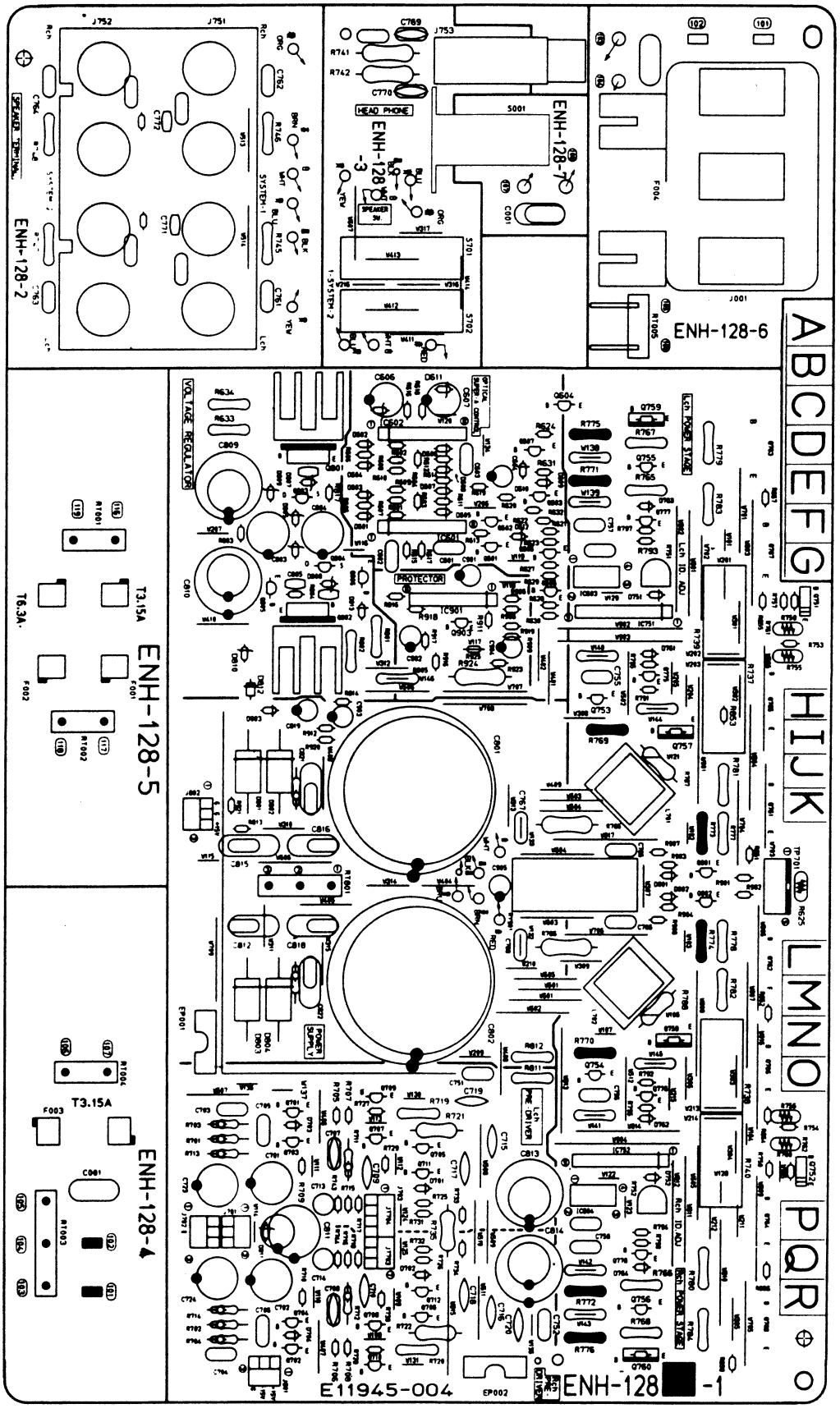
## ■ Source Select PC Board (ENE-057)



# Printed Circuit Board Ass'y and Parts List

## ■ ENH-128 □ Main Amplifier PC Board Ass'y

**Note:** ENH-128 □ varies according to the employed. See note (1) when placing an order.



## Note (1)

| PC Board Ass'y | Designated Areas |
|---|---|
| ENH-128 [F] | Other Countries |
| ENH-128 [G] | Australia, Continental Europe |
| ENH-128 [H] | West Germany |
| ENH-128 [I] BS | the U.K. |
| ENH-128 [J] | the U.S.A., Canada |

## Transistors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | MAKER | AREA |
|---|---|---|---|---|---|
| | Q601 | 2SD1302(S,T) | SILICON | MATSUSHITA | |
| | Q602 | 2SD1302(S,T) | SILICON | MATSUSHITA | |
| | Q603 | 2SA1029(C,D) | SILICON | HITACHI | |
| | Q604 | DTC114YS | SILICON | ROHM | |
| | Q605 | 2SC458(C,D) | SILICON | HITACHI | |
| | Q606 | 2SC458(C,D) | SILICON | HITACHI | |
| | Q607 | DTC144ES | SILICON | ROHM | |
| | Q701 | 2SC2240(A,B) | SILICON | TOSHIBA | |
| | Q702 | 2SC2240(A,B) | SILICON | TOSHIBA | |
| | Q703 | 2SC2240(A,B) | SILICON | TOSHIBA | |
| | Q704 | 2SC2240(A,B) | SILICON | TOSHIBA | |
| | Q705 | 2SA970(GR,BL) | SILICON | TOSHIBA | |
| | Q706 | 2SA970(GR,BL) | SILICON | TOSHIBA | |
| | Q707 | 2SA970(GR,BL) | SILICON | TOSHIBA | |
| | Q708 | 2SA970(GR,BL) | SILICON | TOSHIBA | |
| | Q709 | 2SA933LN(R,S) | SILICON | ROHM | |
| | Q710 | 2SA933LN(R,S) | SILICON | ROHM | |
| | Q711 | 2SC2240(GR,BL) | SILICON | TOSHIBA | |
| | Q712 | 2SC2240(GR,BL) | SILICON | TOSHIBA | |
| | Q751 | 2SD636(Q,R) | SILICON | MATSUSHITA | |
| | Q752 | 2SD636(Q,R) | SILICON | MATSUSHITA | |
| | Q753 | 2SC2909(S,T) | SILICON | SANYO | |
| | Q754 | 2SC2909(S,T) | SILICON | SANYO | |
| | Q755 | 2SA1207(S,T) | SILICON | SANYO | |
| | Q756 | 2SA1207(S,T) | SILICON | SANYO | |
| | Q757 | 2SD669A(B,C) | SILICON | HITACHI | |
| | Q758 | 2SD669A(B,C) | SILICON | HITACHI | |
| | Q759 | 2SB649A(B,C) | SILICON | HITACHI | |
| | Q760 | 2SB649A(B,C) | SILICON | HITACHI | |
| | Q761 | 2SC3855LC(O,Y) | SILICON | | |
| | Q762 | 2SC3855LC(O,Y) | SILICON | | |
| | Q763 | 2SA1491LC(O,Y) | SILICON | | |
| | Q764 | 2SA1491LC(O,Y) | SILICON | | |
| | Q765 | 2SC3855LC(O,Y) | SILICON | | |
| | Q766 | 2SC3855LC(O,Y) | SILICON | | |
| | Q767 | 2SA1491LC(O,Y) | SILICON | | |
| | Q768 | 2SA1491LC(O,Y) | SILICON | | |
| | Q775 | 2SC2240(GR,BL) | SILICON | TOSHIBA | |
| | Q776 | 2SC2240(GR,BL) | SILICON | TOSHIBA | |
| | Q777 | 2SA970(GR,BL) | SILICON | TOSHIBA | |
| | Q778 | 2SA970(GR,BL) | SILICON | TOSHIBA | |
| | Q801 | 2SD2061(F,G) | SILICON | ROHM | |
| | Q802 | 2SB1187(F,G) | SILICON | ROHM | |
| | Q803 | 2SK246(GR) | F.E.T | TOSHIBA | |
| | Q804 | 2SK246(GR) | F.E.T | TOSHIBA | |
| | Q805 | 2SA933S(R,S) | SILICON | ROHM | |
| | Q806 | 2SC3068 | SILICON | SANYO | |
| | Q901 | 2SC2389(S,E) | SILICON | ROHM | |
| | Q902 | 2SC2389(S,E) | SILICON | ROHM | |
| | Q903 | 2SA564A(R,S) | SILICON | MATSUSHITA | |

⚠ : SAFETY PARTS

## I.C.s

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | MAKER | AREA |
|---|---|---|---|---|---|
| | IC601 | BA15218N | I.C. | ROHM | |
| | IC602 | BA15218N | I.C. | ROHM | |
| | IC603 | PC817A | I.C. | SHARP | |
| | IC604 | PC817A | I.C. | SHARP | |
| | IC751 | VC5022(X,Y) | I.C. | ROHM | |
| | IC752 | VC5022(X,Y) | I.C. | ROHM | |
| | IC901 | UPC1237HA | I.C. | NEC | |

⚠ : SAFETY PARTS

## Diodes

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | MAKER | AREA |
|---|---|---|---|---|---|
| | D601 | 1SS133 | SILICON | ROHM | |
| | D602 | 1SS133 | SILICON | ROHM | |
| | D603 | 1SS133 | SILICON | ROHM | |
| | D604 | 1SS133 | SILICON | ROHM | |
| | D605 | 1SS133 | SILICON | ROHM | |
| | D606 | 1SS133 | SILICON | ROHM | |
| | D607 | MTZ4.7JB | ZENER | ROHM | |
| | D608 | MTZ4.7JB | ZENER | ROHM | |
| | D609 | 1SS133 | SILICON | ROHM | |
| | D610 | 1SS133 | SILICON | ROHM | |
| | D611 | MTZ10JC | ZENER | ROHM | |
| | D612 | MTZ4.3JB | ZENER | ROHM | |
| | D701 | 1SS133 | SILICON | ROHM | |
| | D702 | 1SS133 | SILICON | ROHM | |
| | D703 | 1SS133 | SILICON | ROHM | |
| | D704 | 1SS133 | SILICON | ROHM | |
| | D751 | 1SS133 | SILICON | ROHM | |
| | D752 | 1SS133 | SILICON | ROHM | |
| | D761 | 1SS133 | SILICON | ROHM | |
| | D762 | 1SS133 | SILICON | ROHM | |
| | D763 | 1SS133 | SILICON | ROHM | |
| | D764 | 1SS133 | SILICON | ROHM | |
| | D801 | 30DF2SFC | SILICON | NIHONINTER | |
| | D802 | 30DF2SFC | SILICON | NIHONINTER | |
| | D803 | 30DF2SFC | SILICON | NIHONINTER | |
| | D804 | 30DF2SFC | SILICON | NIHONINTER | |
| | D805 | MTZ15JC | ZENER | ROHM | |
| | D807 | MTZ13JC | ZENER | ROHM | |
| | D808 | MTZ13JC | ZENER | ROHM | |
| | D809 | MTZ18JC | ZENER | ROHM | |
| | D810 | MTZ18JC | ZENER | ROHM | |
| | D811 | MTZ18JC | ZENER | ROHM | |
| ⚠ | D812 | ERA15-02L19 | SILICON | KYOUDOU | |
| | D813 | 1SS133 | SILICON | ROHM | |
| | D901 | 1SS133 | SILICON | ROHM | |
| | D902 | 1SS133 | SILICON | ROHM | |
| | D903 | 1SS133 | SILICON | ROHM | |

⚠ : SAFETY PARTS

## Capacitors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | C001 | QCZ9038-103 | 0.01MF | | CERAMIC | G |
| | C001 | QCZ9038-103 | 0.01MF | | CERAMIC | H |
| | C001 | QCZ9038-103 | 0.01MF | | CERAMIC | J |
| | C001 | QCZ9038-103BS | 0.01MF | | CERAMIC | IBS |
| | C601 | QFN81HJ-223 | 0.022MF | 50V | MYLAR | |
| | C602 | QFN81HJ-223 | 0.022MF | 50V | MYLAR | |
| | C603 | QFN81HK-104 | 0.1MF | 50V | MYLAR | |
| | C604 | QETB1EM-106 | 10MF | 25V | ELECTRO | |
| | C606 | QETB1EM-107 | 100MF | 25V | ELECTRO | |
| | C607 | QETB1EM-476 | 47MF | 25V | ELECTRO | |
| | C701 | EEZ5009-106 | 10MF | | ELECTRO | |
| | C702 | EEZ5009-106 | 10MF | | ELECTRO | |
| | C703 | QFP81HJ-101 | 100PF | 50V | POLY | |
| | C704 | QFP81HJ-101 | 100PF | 50V | POLY | |
| | C705 | QFP81HJ-101 | 100PF | 50V | POLY | H |
| | C705 | QFP81HJ-470 | 47PF | 50V | POLY | F |
| | C705 | QFP81HJ-470 | 47PF | 50V | POLY | G |
| | C705 | QFP81HJ-470 | 47PF | 50V | POLY | IBS |
| | C705 | QFP81HJ-470 | 47PF | 50V | POLY | J |
| | C706 | QFP81HJ-101 | 100PF | 50V | POLY | H |
| | C706 | QFP81HJ-470 | 47PF | 50V | POLY | F |
| | C706 | QFP81HJ-470 | 47PF | 50V | POLY | G |
| | C706 | QFP81HJ-470 | 47PF | 50V | POLY | IBS |
| | C706 | QFP81HJ-470 | 47PF | 50V | POLY | J |
| | C707 | QCS21HJ-471 | 470PF | 50V | CERAMIC | |
| | C708 | QCS21HJ-471 | 470PF | 50V | CERAMIC | |
| | C709 | QCS21HJ-100 | 10PF | 50V | CERAMIC | |
| | C710 | QCS21HJ-100 | 10PF | 50V | CERAMIC | |
| | C713 | QEN51HM-475 | 4.7MF | 50V | NON POLE | |
| | C714 | QEN51HM-475 | 4.7MF | 50V | NON POLE | |
| | C715 | QCS21HJ-330 | 33PF | 50V | CERAMIC | |
| | C716 | QCS21HJ-330 | 33PF | 50V | CERAMIC | |
| | C717 | QCS21HJ-330 | 33PF | 50V | CERAMIC | |
| | C718 | QCS21HJ-330 | 33PF | 50V | CERAMIC | |
| | C719 | QCS21HJ-220 | 22PF | 50V | CERAMIC | |
| | C720 | QCS21HJ-220 | 22PF | 50V | CERAMIC | |
| | C723 | EEZ2505-107 | 100MF | | ELECTRO | |
| | C724 | EEZ2505-107 | 100MF | | ELECTRO | |
| | C751 | QFP81HJ-103 | 0.01MF | 50V | POLY | |
| | C752 | QFP81HJ-103 | 0.01MF | 50V | POLY | |

## Capacitors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | C755 | QFP82AJ-680 | 68PF | 100V | POLY | |
| | C756 | QFP82AJ-680 | 68PF | 100V | POLY | |
| | C757 | QFP82AJ-680 | 68PF | 100V | POLY | |
| | C758 | QFP82AJ-680 | 68PF | 100V | POLY | |
| | C761 | QFN81HK-223 | 0.022MF | 50V | MYLAR | H |
| | C762 | QFN81HK-223 | 0.022MF | 50V | MYLAR | H |
| | C763 | QFN81HK-223 | 0.022MF | 50V | MYLA | H |
| | C764 | QFN81HK-223 | 0.022MF | 50V | MYLA | H |
| | C765 | QFV81HJ-104 | 0.1MF | 50V | T.FILM | |
| | C766 | QFV81HJ-104 | 0.1MF | 50V | T.FILM | |
| | C767 | QFV81HJ-104 | 0.1MF | 50V | T.FILM | |
| | C768 | QFV81HJ-104 | 0.1MF | 50V | T.FILM | |
| | C769 | QCF21HP-222 | 2200PF | 50V | CERAMIC | H |
| | C770 | QCF21HP-222 | 2200PF | 50V | CERAMIC | H |
| | C771 | QCHB1EZ-223 | 0.022MF | 25V | CERAMIC | H |
| | C772 | QCHB1EZ-223 | 0.022MF | 25V | CERAMIC | H |
| | C801 | EEW6309-129T | 12000MF | | ELECTRO | |
| | C802 | EEW6309-129T | 12000MF | | ELECTRO | |
| | C803 | QETB1HM-476 | 47MF | 50V | ELECTRO | |
| | C804 | QETB1HM-476 | 47MF | 50V | ELECTRO | |
| | C805 | QCBB1HK-101 | 100PF | 50V | CERAMIC | |
| | C809 | QETB1EM-107 | 100MF | 25V | ELECTRO | |
| | C810 | QETB1EM-107 | 100MF | 25V | ELECTRO | |
| | C811 | QETB1EM-107 | 100MF | 25V | ELECTRO | |
| | C812 | QFV81HJ-223 | 0.022MF | 50V | T.FILM | |
| | C813 | QETB1JM-227 | 220MF | 63V | ELECTRO | |
| | C814 | QETB1JM-227 | 220MF | 63V | ELECTRO | |
| | C815 | QFH42EK-104 | 0.1MF | 250V | M.MYLAR | |
| | C816 | QFN82AK-104 | 0.1MF | 100V | MYLAR | |
| | C818 | QFN82AK-104 | 0.1MF | 100V | MYLAR | |
| | C819 | QETB1HM-105 | 1MF | 50V | ELECTRO | |
| | C901 | QETB1AM-227 | 220MF | 10V | ELECTRO | |
| | C902 | QETB1CM-226 | 22MF | 16V | ELECTRO | |
| | C903 | QETB1HM-475 | 4.7MF | 50V | ELECTRO | |
| | C904 | QETB1HM-226 | 22MF | 50V | ELECTRO | |
| | C905 | QETB1HM-105 | 1MF | 50V | ELECTRO | |

⚠ : SAFETY PARTS

## Rasistors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | R601 | QRD167J-224 | 220K | 1/6W | CARBON | |
| | R602 | QRD167J-224 | 220K | 1/6W | CARBON | |
| | R603 | QRD167J-224 | 220K | 1/6W | CARBON | |
| | R604 | QRD167J-224 | 220K | 1/6W | CARBON | |
| | R605 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R606 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R607 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R608 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R609 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R610 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R611 | QRD167J-473 | 47K | 1/6W | CARBON | |
| | R612 | QRD167J-473 | 47K | 1/6W | CARBON | |
| | R613 | QRD167J-222 | 2.2K | 1/6W | CARBON | |
| | R614 | QRD167J-222 | 2.2K | 1/6W | CARBON | |
| | R615 | QRD167J-183 | 18K | 1/6W | CARBON | |
| | R616 | QRD167J-183 | 18K | 1/6W | CARBON | |
| | R617 | QRD167J-682 | 6.8K | 1/6W | CARBON | |
| | R618 | QRD167J-682 | 6.8K | 1/6W | CARBON | |
| | R619 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R620 | QRD167J-221 | 220 | 1/6W | CARBON | |
| | R621 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R622 | QRD167J-332 | 3.3K | 1/6W | CARBON | |
| | R623 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R624 | QRD167J-303 | 30K | 1/6W | CARBON | |
| ⚠ | R625 | PTH59F04BF222TS | | | POSISTOR | |
| | R627 | QRD167J-153 | 15K | 1/6W | CARBON | |
| | R628 | QRD167J-153 | 15K | 1/6W | CARBON | |
| | R629 | QRD167J-822 | 8.2K | 1/6W | CARBON | |
| | R630 | QRD167J-822 | 8.2K | 1/6W | CARBON | |
| | R631 | QRD167J-333 | 33K | 1/6W | CARBON | |
| | R632 | QRD167J-152 | 1.5K | 1/6W | CARBON | |
| ⚠ | R633 | QRD14CJ-271S | 270 | 1/4W | UNF.CARBON | |
| ⚠ | R634 | QRD14CJ-271S | 270 | 1/4W | UNF.CARBON | |
| | R701 | QRD167J-222 | 2.2K | 1/6W | CARBON | |
| | R702 | QRD167J-222 | 2.2K | 1/6W | CARBON | |
| | R703 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R704 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R705 | QRD167J-202 | 2K | 1/6W | CARBON | |
| | R706 | QRD167J-202 | 2K | 1/6W | CARBON | |
| | R707 | QRD167J-202 | 2K | 1/6W | CARBON | |

## Resistors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | R708 | QRD167J-202 | 2K | 1/6W | CARBON | |
| | R709 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R710 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R711 | QRD167J-101 | 100 | 1/6W | CARBON | |
| | R712 | QRD167J-101 | 100 | 1/6W | CARBON | |
| ⚠ | R713 | QRD14CJ-751S | 750 | 1/4W | UNF.CARBON | |
| ⚠ | R714 | QRD14CJ-751S | 750 | 1/4W | UNF.CARBON | |
| | R715 | QRD167J-163 | 16K | 1/6W | CARBON | |
| | R716 | QRD167J-163 | 16K | 1/6W | CARBON | |
| | R717 | QRD167J-823 | 82K | 1/6W | CARBON | |
| | R718 | QRD167J-823 | 82K | 1/6W | CARBON | |
| ⚠ | R719 | QRD14CJ-121S | 120 | 1/4W | UNF.CARBON | |
| ⚠ | R720 | QRD14CJ-121S | 120 | 1/4W | UNF.CARBON | |
| ⚠ | R721 | QRD125J-103 | 10K | 1/2W | UNF.CARBON | |
| ⚠ | R722 | QRD125J-103 | 10K | 1/2W | UNF.CARBON | |
| | R725 | QRD167J-391 | 390 | 1/6W | CARBON | |
| | R726 | QRD167J-391 | 390 | 1/6W | CARBON | |
| | R727 | QRD167J-152 | 1.5K | 1/6W | CARBON | |
| | R728 | QRD167J-152 | 1.5K | 1/6W | CARBON | |
| | R729 | QRD167J-333 | 33K | 1/6W | CARBON | |
| | R730 | QRD167J-333 | 33K | 1/6W | CARBON | |
| | R731 | QRD167J-391 | 390 | 1/6W | CARBON | |
| | R732 | QRD167J-391 | 390 | 1/6W | CARBON | |
| | R733 | QRD167J-152 | 1.5K | 1/6W | CARBON | |
| | R734 | QRD167J-152 | 1.5K | 1/6W | CARBON | |
| ⚠ | R735 | QRG012J-392A | 3.9K | 1W | O.M.FILM | |
| ⚠ | R737 | ERF032K-R22 | 0.22 | 3W | CEMENT | |
| ⚠ | R738 | ERF032K-R22 | 0.22 | 3W | CEMENT | |
| ⚠ | R739 | ERF032K-R22 | 0.22 | 3W | CEMENT | |
| ⚠ | R740 | ERF032K-R22 | 0.22 | 3W | CEMENT | |
| ⚠ | R741 | QRG022J-331A | 330 | 2W | O.M.FILM | |
| ⚠ | R742 | QRG022J-331A | 330 | 2W | O.M.FILM | |
| | R743 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R744 | QRD167J-104 | 100K | 1/6W | CARBON | |
| ⚠ | R745 | QRD14CJ-4R7S | 4.7 | 1/4W | UNF.CARBON | H |
| ⚠ | R746 | QRD14CJ-4R7S | 4.7 | 1/4W | UNF.CARBON | H |
| ⚠ | R747 | QRD14CJ-4R7S | 4.7 | 1/4W | UNF.CARBON | H |
| ⚠ | R748 | QRD14CJ-4R7S | 4.7 | 1/4W | UNF.CARBON | H |
| | R751 | QVPE601-202 | 2K | 0.15W | VARIABLE | |
| | R752 | QVPE601-202 | 2K | 0.15W | VARIABLE | |
| | R753 | QRD167J-101 | 100 | 1/6W | CARBON | |
| | R754 | QRD167J-101 | 100 | 1/6W | CARBON | |
| | R755 | ERT-D2WFL351S | 350 | 1/4W | THERMISTOR | |
| | R756 | ERT-D2WFL351S | 350 | 1/4W | THERMISTOR | |
| | R757 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R758 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R759 | QRD167J-332 | 3.3K | 1/6W | CARBON | |
| | R760 | QRD167J-332 | 3.3K | 1/6W | CARBON | |
| | R761 | ERT-D2WHL202S | 2K | 1/4W | THERMISTOR | |
| | R762 | ERT-D2WHL202S | 2K | 1/4W | THERMISTOR | |
| ⚠ | R765 | QRZ0077-272 | 2.7K | 1/4W | FUSIBLE | |
| ⚠ | R766 | QRZ0077-272 | 2.7K | 1/4W | FUSIBLE | |
| ⚠ | R767 | QRZ0077-471 | 470 | 1/4W | FUSIBLE | |
| ⚠ | R768 | QRZ0077-471 | 470 | 1/4W | FUSIBLE | |
| ⚠ | R769 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R770 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R771 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R772 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R773 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R774 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R775 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R776 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R777 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R778 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R779 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R780 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R781 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R782 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R783 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R784 | QRZ0077-4R7 | 4.7 | 1/4W | FUSIBLE | |
| ⚠ | R785 | QRG022J-100A | 10 | 2W | O.M.FILM | |
| ⚠ | R786 | QRG022J-100A | 10 | 2W | O.M.FILM | |
| ⚠ | R787 | QRD125J-101 | 100 | 1/2W | UNF.CARBON | H |
| ⚠ | R787 | QRD125J-330 | 33 | 1/2W | UNF.CARBON | F |
| ⚠ | R787 | QRD125J-330 | 33 | 1/2W | UNF.CARBON | G |
| ⚠ | R787 | QRD125J-330 | 33 | 1/2W | UNF.CARBON | IBS |
| ⚠ | R787 | QRD125J-330 | 33 | 1/2W | UNF.CARBON | J |
| ⚠ | R788 | QRD125J-101 | 100 | 1/2W | UNF.CARBON | H |
| ⚠ | R788 | QRD125J-330 | 33 | 1/2W | UNF.CARBON | F |
| ⚠ | R788 | QRD125J-330 | 33 | 1/2W | UNF.CARBON | G |
| ⚠ | R788 | QRD125J-330 | 33 | 1/2W | UNF.CARBON | IBS |
| ⚠ | R788 | QRD125J-330 | 33 | 1/2W | UNF.CARBON | J |
| | R791 | QRD167J-561 | 560 | 1/6W | CARBON | |
| | R792 | QRD167J-561 | 560 | 1/6W | CARBON | |
| | R793 | QRD167J-561 | 560 | 1/6W | CARBON | |
| | R794 | QRD167J-561 | 560 | 1/6W | CARBON | |
| | R795 | QRD167J-271 | 270 | 1/6W | CARBON | |

## Resistors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | R796 | QRD167J-271 | 270 | 1/6W | CARBON | |
| | R797 | QRD167J-161 | 160 | 1/6W | CARBON | |
| | R798 | QRD167J-161 | 160 | 1/6W | CARBON | |
| ⚠ | R801 | QRD14CJ-220S | 22 | 1/4W | UNF.CARBON | J |
| ⚠ | R801 | QRZ0077-150 | 15 | 1/4W | FUSIBLE | F |
| ⚠ | R801 | QRZ0077-150 | 15 | 1/4W | FUSIBLE | G |
| ⚠ | R801 | QRZ0077-150 | 15 | 1/4W | FUSIBLE | H |
| ⚠ | R801 | QRZ0077-150 | 15 | 1/4W | FUSIBLE | IBS |
| ⚠ | R802 | QRD14CJ-330S | 33 | 1/4W | UNF.CARBON | J |
| ⚠ | R802 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | F |
| ⚠ | R802 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | G |
| ⚠ | R802 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | H |
| ⚠ | R802 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | IBS |
| | R803 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R804 | QRD167J-203 | 20K | 1/6W | CARBON | |
| ⚠ | R811 | QRD14CJ-330S | 33 | 1/4W | UNF.CARBON | J |
| ⚠ | R811 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | F |
| ⚠ | R811 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | G |
| ⚠ | R811 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | H |
| ⚠ | R811 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | IBS |
| ⚠ | R812 | QRD14CJ-330S | 33 | 1/4W | UNF.CARBON | J |
| ⚠ | R812 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | F |
| ⚠ | R812 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | G |
| ⚠ | R812 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | H |
| ⚠ | R812 | QRZ0077-330 | 33 | 1/4W | FUSIBLE | IBS |
| | R813 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R814 | QRD167J-563 | 56K | 1/6W | CARBON | |
| | R816 | QRD167J-393 | 39K | 1/6W | CARBON | |
| | R817 | QRD167J-221 | 220 | 1/6W | CARBON | |
| | R851 | QRD167J-100 | 10 | 1/6W | CARBON | |
| | R852 | QRD167J-100 | 10 | 1/6W | CARBON | |
| | R853 | QRD167J-100 | 10 | 1/6W | CARBON | |
| | R854 | QRD167J-100 | 10 | 1/6W | CARBON | |
| | R855 | QRD167J-100 | 10 | 1/6W | CARBON | |
| | R856 | QRD167J-100 | 10 | 1/6W | CARBON | |
| | R857 | QRD167J-100 | 10 | 1/6W | CARBON | |
| | R858 | QRD167J-100 | 10 | 1/6W | CARBON | |
| | R901 | QRD167J-272 | 2.7K | 1/6W | CARBON | |
| | R902 | QRD167J-272 | 2.7K | 1/6W | CARBON | |
| | R903 | QRD167J-153 | 15K | 1/6W | CARBON | |
| | R904 | QRD167J-153 | 15K | 1/6W | CARBON | |
| | R905 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R906 | QRD167J-823 | 82K | 1/6W | CARBON | |
| | R907 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R908 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R909 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R911 | QRD167J-473 | 47K | 1/6W | CARBON | |
| | R912 | QRD167J-562 | 5.6K | 1/6W | CARBON | |
| | R916 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R917 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R918 | QRD167J-224 | 220K | 1/6W | CARBON | |
| | R919 | QRD167J-332 | 3.3K | 1/6W | CARBON | |
| | R920 | QRD167J-393 | 39K | 1/6W | CARBON | |
| | R921 | QRD167J-153 | 15K | 1/6W | CARBON | |
| | R923 | QRD167J-201 | 200 | 1/6W | CARBON | |
| ⚠ | R924 | QRG022J-122A | 1.2K | 2W | O.M.FILM | |
| | R925 | QRD167J-151 | 150 | 1/6W | CARBON | |

⚠ : SAFETY PARTS

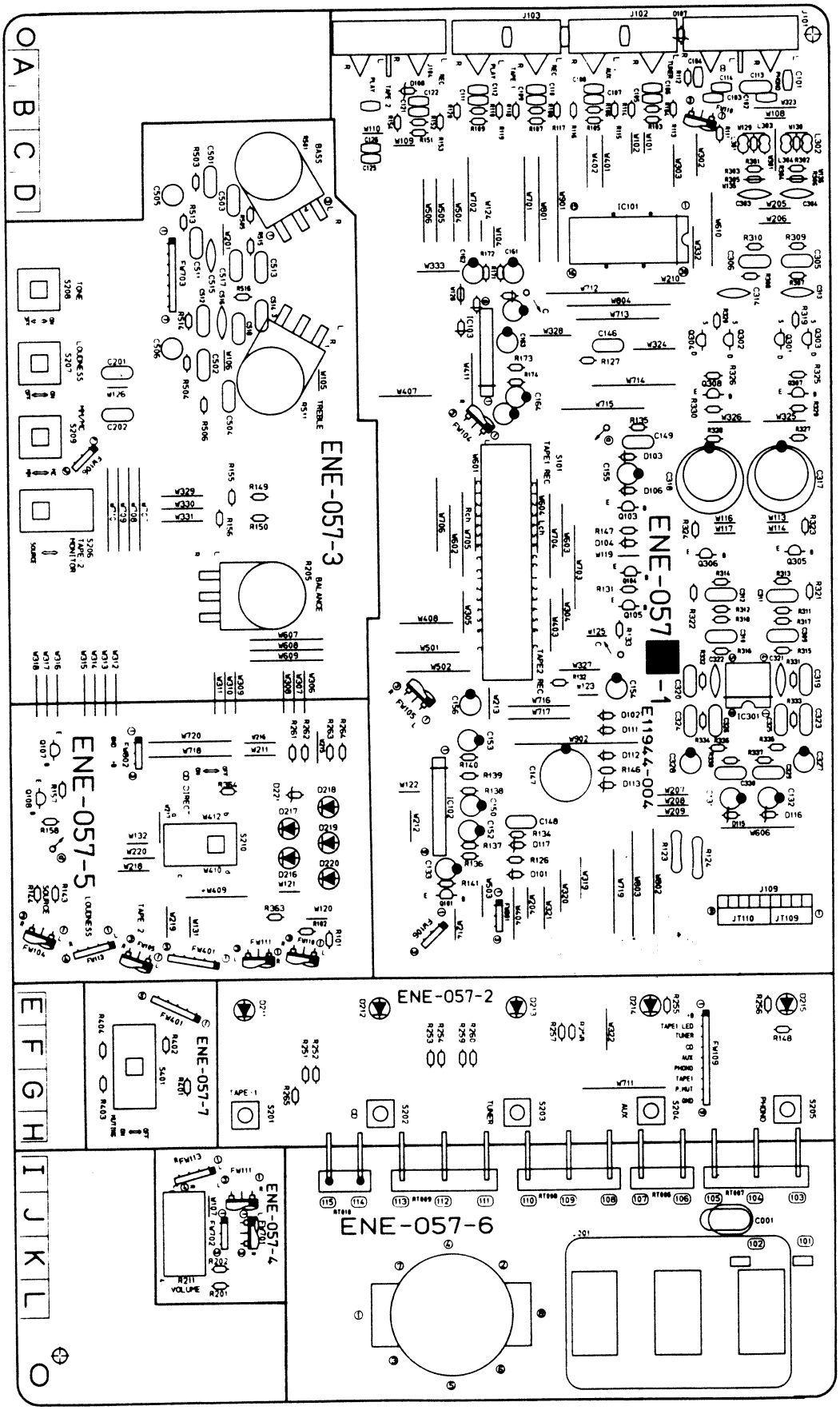
## Others

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | AREA |
|---|---|---|---|---|
| | | EMG7331-002U | FUSE CLIP | F |
| | | EMG7331-002U | FUSE CLIP | G |
| | | EMG7331-002U | FUSE CLIP | H |
| | | EMG7331-002U | FUSE CLIP | IBS |
| | | EMG7331-002 | FUSE CLIP | F |
| | | EMG7331-002Z | FUSE CLIP | G |
| | | EMG7331-002Z | FUSE CLIP | H |
| | | EMG7331-002Z | FUSE CLIP | IBS |
| | | EWT011-079 | TERMINAL WIRE | H |
| | | E03675-004 | FUSE CLIP | J |
| | | E11945-004 | CIRCUIT BOARD | F |
| | | E11945-004 | CIRCUIT BOARD | G |
| | | E11945-004 | CIRCUIT BOARD | H |
| | | E11945-004 | CIRCUIT BOARD | J |
| | | E11945-004BS | CIRCUIT BOARD | IBS |
| | | E300209-032 | HEAT SINK | |
| | | E305991-001 | BRACKET | |
| | | E305992-001 | BRACKET | |
| | | E33754-001 | TIE BAND | |
| | | E61380-020 | FUSE LABEL | J |
| | | E65508-002 | TAB | G |
| | | E65508-002 | TAB | H |
| | | E65508-002 | TAB | IBS |
| | | E65508-002 | TAB | J |
| | | E67132-T4R0 | FUSE LABEL | G |
| | | E67132-T4R0 | FUSE LABEL | H |
| | | E67132-T4R0 | FUSE LABEL | IBS |
| | | E70945-H25 | HEAT SINK | |
| | | E70945-H40 | HEAT SINK | |
| | | E73525-003 | SCREW | |
| | | E73525-003 | SCREW | |
| | | GBSB3008CC | SCREW | |
| | | SBSB3008CC | SCREW | |
| | | E67132-T4R0 | FUSE LABEL | F |
| | | E67132-T8R0 | FUSE LABEL | F |
| ⚠ | J001 | QMC0638-001 | AC OUTLET | J |
| | J701 | EMV7122-003 | CONNECTOR | |
| | J702 | EMV7122-003 | CONNECTOR | |
| | J751 | EMB00TP-801G | SPEAKER TERMINAL | J |
| | J751 | EMB00TP-801H | SPEAKER TERMINAL | F |
| | J751 | EMB00TP-801H | SPEAKER TERMINAL | G |
| | J751 | EMB00TP-801H | SPEAKER TERMINAL | H |
| | J751 | EMB00TP-801H | SPEAKER TERMINAL | IBS |
| | J752 | EMB00TP-801G | SPEAKER TERMINAL | J |
| | J752 | EMB00TP-801H | SPEAKER TERMINAL | F |
| | J752 | EMB00TP-801H | SPEAKER TERMINAL | G |
| | J752 | EMB00TP-801H | SPEAKER TERMINAL | H |
| | J752 | EMB00TP-801H | SPEAKER TERMINAL | IBS |
| | J753 | QMS6A40-021 | HEADPHONE JACK | |
| | J801 | EMV7122-003 | CONNECTOR | |
| | J802 | EMV7122-003 | CONNECTOR | |
| | L701 | EQL0001-1R0 | INDUCTOR | |
| | L702 | EQL0001-1R0 | INDUCTOR | |
| ⚠ | S001 | QSP1106-005 | POWER SWITCH | J |
| | S701 | QST4231-E04 | PUSH SWITCH | |
| | S702 | QST4231-E04 | PUSH SWITCH | |
| | EP001 | E70859-001 | EARTH PLATE | |
| | EP002 | E70859-001 | EARTH PLATE | |
| | JT703 | EMV7122-003 | CONNECTOR | |
| | JT704 | EMV7122-004 | CONNECTOR | |
| | RT001 | E67764-202 | WRAPPING TERMINAL | F |
| | RT002 | E67764-202 | WRAPPING TERMINAL | F |
| | RT003 | E67764-203 | WRAPPING TERMINAL | G |
| | RT003 | E67764-203 | WRAPPING TERMINAL | H |
| | RT003 | E67764-203 | WRAPPING TERMINAL | IBS |
| | RT004 | E67764-202 | WRAPPING TERMINAL | G |
| | RT004 | E67764-202 | WRAPPING TERMINAL | H |
| | RT004 | E67764-202 | WRAPPING TERMINAL | IBS |
| | RT005 | E67764-302 | WRAPPING TERMINAL | J |
| | RT801 | E67764-103 | WRAPPING TERMINAL | |
| | RY901 | ESK5D24-218 | RELAY | |
| | TP701 | QMV5005-005K | PLUG ASSY | |

⚠ : SAFETY PARTS

## ■ ENE-057 □ Source Selector PC Board Ass'y

**Note:** ENE-057 □ Varies according to the employed. See note (1) when placing an order.



### Note (1)

| PC Board Ass'y | Designated Areas |
|---|---|
| ENE-057 D | the U.S.A., Canada, Continental Europe Australia, the U.K. |
| ENE-057 E | West Germany |
| ENE-057 F | Other Countries |

### Transistors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | MAKER | AREA |
|---|---|---|---|---|---|
| | Q101 | DTA144ES | SILICON | ROHM | |
| | Q103 | 2SC2389(S,E) | SILICON | ROHM | |
| | Q104 | DTC144ES | SILICON | ROHM | |
| | Q105 | DTA144ES | SILICON | ROHM | |
| | Q107 | 2SC3068 | SILICON | SANYO | |
| | Q108 | 2SC3068 | SILICON | SANYO | |
| | Q301 | 2SK170(BL) | F.E.T | TOSHIBA | |
| | Q302 | 2SK170(BL) | F.E.T | TOSHIBA | |
| | Q303 | 2SK170(BL) | F.E.T | TOSHIBA | |
| | Q304 | 2SK170(BL) | F.E.T | TOSHIBA | |
| | Q305 | 2SD655(E,F) | SILICON | HITACHI | |
| | Q306 | 2SD655(E,F) | SILICON | HITACHI | |
| | Q307 | 2SD655(E,F) | SILICON | HITACHI | |
| | Q308 | 2SD655(E,F) | SILICON | HITACHI | |

⚠ : SAFETY PARTS

### I.C.s

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | MAKER | AREA |
|---|---|---|---|---|---|
| | IC101 | LC7818 | I.C. | SANYO | |
| | IC102 | TA7317P | I.C. | TOSHIBA | |
| | IC103 | VC4580LD | I.C. | DAINICHI | |
| | IC301 | NJM4560DD | I.C. | DAINICHI | |

⚠ : SAFETY PARTS

### Diodes

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | MAKER | AREA |
|---|---|---|---|---|---|
| | D101 | 1SS133 | SILICON | ROHM | |
| | D102 | 1SS133 | SILICON | ROHM | |
| | D103 | 1SS133 | SILICON | ROHM | |
| | D104 | 1SS133 | SILICON | ROHM | |
| | D106 | 1SS133 | SILICON | ROHM | |
| | D107 | MTZ3.3JB | ZENER | ROHM | |
| | D108 | MTZ3.3JB | ZENER | ROHM | |
| | D111 | 1SS133 | SILICON | ROHM | |
| | D112 | 1SS133 | SILICON | ROHM | |
| | D113 | MTZ5.6JC | ZENER | ROHM | |
| | D115 | MTZ13JC | ZENER | ROHM | |
| | D116 | MTZ13JC | ZENER | ROHM | |
| | D117 | MTZ6.8JC | ZENER | ROHM | |
| | D211 | SLR-331VR50F070 | L.E.D. | ROHM | |
| | D212 | SLR-331DU50F070 | L.E.D. | ROHM | |
| | D213 | SLR-331DU50F070 | L.E.D. | ROHM | |
| | D214 | SLR-331DU50F070 | L.E.D. | ROHM | |
| | D215 | SLR-331DU50F070 | L.E.D. | ROHM | |
| | D216 | SLR-34YC50F165 | L.E.D. | ROHM | |
| | D217 | SLR-34YC50F165 | L.E.D. | ROHM | |
| | D218 | SLR-34DC50F165 | L.E.D. | ROHM | |
| | D219 | SLR-34DC50F165 | L.E.D. | ROHM | |
| | D220 | SLR-34DC50F165 | L.E.D. | ROHM | |
| | D221 | MTZ5.1JC | ZENER | ROHM | |

⚠ : SAFETY PARTS

### Capacitors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | C001 | QCZ9038-103 | 0.01MF | | CERAMIC | F |
| | C101 | QCBB1HK-471 | 470PF | 50V | CERAMIC | E |
| | C102 | QCBB1HK-471 | 470PF | 50V | CERAMIC | E |
| | C103 | QCBB1HK-471 | 470PF | 50V | CERAMIC | E |
| | C104 | QCBB1HK-471 | 470PF | 50V | CERAMIC | E |

### Capacitors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | C105 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C106 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C107 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C108 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C109 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C110 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C111 | QCBB1HK-331 | 330PF | 50V | CERAMIC | E |
| | C112 | QCBB1HK-331 | 330PF | 50V | CERAMIC | E |
| | C113 | QFV81HJ-103 | 0.01MF | 50V | T.FILM | |
| | C114 | QCHB1EZ-223 | 0.022MF | 25V | CERAMIC | |
| | C121 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C122 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C125 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C126 | QCBB1HK-221 | 220PF | 50V | CERAMIC | E |
| | C131 | QETB1EM-107 | 100MF | 25V | ELECTRO | |
| | C132 | QETB1EM-107 | 100MF | 25V | ELECTRO | |
| | C133 | QETB1EM-106 | 10MF | 25V | ELECTRO | |
| | C146 | QFN81HJ-562 | 5600PF | 50V | MYLAR | |
| | C147 | QETBOJM-228 | 2200MF | 6.3V | ELECTRO | |
| | C148 | QFN81HJ-562 | 5600PF | 50V | MYLAR | |
| | C149 | QFN81HK-473 | 0.047MF | 50V | MYLAR | |
| | C150 | QETB1HM-225 | 2.2MF | 50V | ELECTRO | |
| | C152 | QETB1CM-226 | 22MF | 16V | ELECTRO | |
| | C153 | QETB1HM-475 | 4.7MF | 50V | ELECTRO | |
| | C154 | QETB1CM-107 | 100MF | 16V | ELECTRO | |
| | C155 | QETB1HM-474 | 0.47MF | 50V | ELECTRO | |
| | C156 | QETB1HM-475 | 4.7MF | 50V | ELECTRO | |
| | C161 | EEZ5009-106 | 10MF | | ELECTRO | |
| | C162 | EEZ5009-106 | 10MF | | ELECTRO | |
| | C163 | EEZ5009-106 | 10MF | | ELECTRO | |
| | C164 | EEZ5009-106 | 10MF | | ELECTRO | |
| | C201 | QFV81HJ-333 | 0.033MF | 50V | T.FILM | |
| | C202 | QFV81HJ-333 | 0.033MF | 50V | T.FILM | |
| | C303 | QCS21HJ-151 | 150PF | 50V | CERAMIC | |
| | C304 | QCS21HJ-151 | 150PF | 50V | CERAMIC | |
| | C305 | QFN81HK-103 | 0.01MF | 50V | MYLAR | |
| | C306 | QFN81HK-103 | 0.01MF | 50V | MYLAR | |
| | C309 | QFN81HK-392 | 3900PF | 50V | MYLAR | |
| | C310 | QFN81HK-392 | 3900PF | 50V | MYLAR | |
| | C311 | QFN81HK-822 | 8200PF | 50V | MYLAR | |
| | C312 | QFN81HK-822 | 8200PF | 50V | MYLAR | |
| | C313 | QCS21HJ-101 | 100PF | 50V | CERAMIC | E |
| | C313 | QCS21HJ-680 | 68P | 50V | CERAMIC | D |
| | C313 | QCS21HJ-680 | 68PF | 50V | CERAMIC | F |
| | C314 | QCS21HJ-101 | 100PF | 50V | CERAMIC | E |
| | C314 | QCS21HJ-680 | 68PF | 50V | CERAMIC | D |
| | C314 | QCS21HJ-680 | 68PF | 50V | CERAMIC | F |
| | C317 | QETBOJM-228 | 2200MF | 6.3V | ELECTRO | |
| | C318 | QETBOJM-228 | 2200MF | 6.3V | ELECTRO | |
| | C319 | QFN81HJ-472 | 4700PF | 50V | MYLAR | |
| | C320 | QFN81HJ-472 | 4700PF | 50V | MYLAR | |
| | C321 | QCS21HJ-331 | 330PF | 50V | CERAMIC | |
| | C322 | QCS21HJ-331 | 330PF | 50V | CERAMIC | |
| | C323 | QFN81HJ-153 | 0.015MF | 50V | MYLAR | |
| | C324 | QFN81HJ-153 | 0.015MF | 50V | MYLAR | |
| | C325 | QFN81HJ-272 | 2700PF | 50V | MYLAR | |
| | C326 | QFN81HJ-272 | 2700PF | 50V | MYLAR | |
| | C327 | EEZ5009-106 | 10MF | | ELECTRO | |
| | C328 | EEZ5009-106 | 10MF | | ELECTRO | |
| | C329 | QFN81HJ-222 | 2200PF | 50V | MYLAR | E |
| | C330 | QFN81HJ-222 | 2200PF | 50V | MYLAR | E |
| | C501 | QFN81HK-153 | 0.015MF | 50V | MYLAR | |
| | C502 | QFN81HK-153 | 0.015MF | 50V | MYLAR | |
| | C503 | QFN81HK-823 | 0.082MF | 50V | MYLAR | |
| | C504 | QFN81HK-823 | 0.082MF | 50V | MYLAR | |
| | C505 | QEN51HM-475 | 4.7MF | 50V | NON POLE | |
| | C506 | QEN51HM-475 | 4.7MF | 50V | NON POLE | |
| | C511 | QFN81HK-332 | 3300PF | 50V | MYLAR | |
| | C512 | QFN81HK-332 | 3300PF | 50V | MYLAR | |
| | C513 | QFN81HK-183 | 0.018MF | 50V | MYLAR | |
| | C514 | QFN81HK-183 | 0.018MF | 50V | MYLAR | |
| | C515 | QCS21HJ-221 | 220PF | 50V | CERAMIC | |
| | C516 | QCS21HJ-221 | 220PF | 50V | CERAMIC | |
| | C517 | QFN81HK-122 | 1200PF | 50V | MYLAR | |
| | C518 | QFN81HK-122 | 1200PF | 50V | MYLAR | |

⚠ : SAFETY PARTS

### Resistors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | R101 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R102 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R103 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R104 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R105 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R106 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R107 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R108 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R109 | QRD167J-105 | 1M | 1/6W | CARBON | |

## Resistors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | R110 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R111 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R112 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R113 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R114 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R115 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R116 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R117 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R118 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R119 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R120 | QRD167J-471 | 470 | 1/6W | CARBON | |
| ⚠ | R123 | QRZ0077-101 | 100 | 1/4W | FUSIBLE | |
| ⚠ | R124 | QRZ0077-101 | 100 | 1/4W | FUSIBLE | |
| | R126 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R127 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R131 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R132 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R133 | QRD167J-102 | 1K | 1/6W | CARBON | |
| | R134 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R135 | QRD167J-474 | 470K | 1/6W | CARBON | |
| | R136 | QRD167J-562 | 5.6K | 1/6W | CARBON | |
| | R137 | QRD167J-473 | 47K | 1/6W | CARBON | |
| | R138 | QRD167J-392 | 3.9K | 1/6W | CARBON | |
| | R139 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R140 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R141 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R143 | QRD167J-102 | 1K | 1/6W | CARBON | |
| | R144 | QRD167J-102 | 1K | 1/6W | CARBON | |
| | R146 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R147 | QRD167J-473 | 47K | 1/6W | CARBON | |
| | R148 | QRD167J-273 | 27K | 1/6W | CARBON | |
| | R149 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R150 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R151 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R152 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R153 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R154 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R155 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R156 | QRD167J-105 | 1M | 1/6W | CARBON | |
| | R157 | QRD167J-333 | 33K | 1/6W | CARBON | |
| | R158 | QRD167J-333 | 33K | 1/6W | CARBON | |
| | R171 | QRD167J-473 | 47K | 1/6W | CARBON | |
| | R172 | QRD167J-473 | 47K | 1/6W | CARBON | |
| | R173 | QRD167J-474 | 470K | 1/6W | CARBON | |
| | R174 | QRD167J-474 | 470K | 1/6W | CARBON | |
| | R201 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R202 | QRD167J-223 | 22K | 1/6W | CARBON | |
| | R205 | QVD887M-EF5B | 250K | | VARIABLE | |
| | R211 | QVD8A7B-AF5VA | 250K | | VARIABLE | |
| | R251 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R252 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R253 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R254 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R255 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R256 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R257 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R258 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R259 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R260 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R261 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R262 | QRD167J-112 | 1.1K | 1/6W | CARBON | |
| | R263 | QRD167J-102 | 1K | 1/6W | CARBON | |
| | R264 | QRD167J-122 | 1.2K | 1/6W | CARBON | |
| | R265 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R301 | QRD167J-331 | 330 | 1/6W | CARBON | E |
| | R302 | QRD167J-331 | 330 | 1/6W | CARBON | E |
| | R303 | QRD167J-473 | 47K | 1/6W | CARBON | |
| | R304 | QRD167J-473 | 47K | 1/6W | CARBON | |
| | R305 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R306 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R307 | QRD167J-5R6 | 5.6 | 1/6W | CARBON | |
| | R308 | QRD167J-5R6 | 5.6 | 1/6W | CARBON | |
| | R309 | QRD167J-101 | 100 | 1/6W | CARBON | |
| | R310 | QRD167J-101 | 100 | 1/6W | CARBON | |
| | R311 | QRD167J-562 | 5.6K | 1/6W | CARBON | |
| | R312 | QRD167J-562 | 5.6K | 1/6W | CARBON | |
| | R313 | QRD167J-270 | 27 | 1/6W | CARBON | |
| | R314 | QRD167J-270 | 27 | 1/6W | CARBON | |
| | R315 | QRD167J-561 | 560 | 1/6W | CARBON | |
| | R316 | QRD167J-561 | 560 | 1/6W | CARBON | |
| | R317 | QRD167J-562 | 5.6K | 1/6W | CARBON | |
| | R318 | QRD167J-562 | 5.6K | 1/6W | CARBON | |
| | R319 | QRD167J-222 | 2.2K | 1/6W | CARBON | |
| | R320 | QRD167J-222 | 2.2K | 1/6W | CARBON | |
| | R321 | QRD167J-272 | 2.7K | 1/6W | CARBON | |
| | R322 | QRD167J-272 | 2.7K | 1/6W | CARBON | |

## Resistors

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | | | AREA |
|---|---|---|---|---|---|---|
| | R323 | QRD167J-273 | 27K | 1/6W | CARBON | |
| | R324 | QRD167J-273 | 27K | 1/6W | CARBON | |
| | R325 | QRD167J-273 | 27K | 1/6W | CARBON | |
| | R326 | QRD167J-273 | 27K | 1/6W | CARBON | |
| | R327 | QRD167J-180 | 18 | 1/6W | CARBON | |
| | R328 | QRD167J-180 | 18 | 1/6W | CARBON | |
| | R329 | QRD167J-221 | 220 | 1/6W | CARBON | |
| | R330 | QRD167J-221 | 220 | 1/6W | CARBON | |
| | R331 | QRD167J-153 | 15K | 1/6W | CARBON | |
| | R332 | QRD167J-153 | 15K | 1/6W | CARBON | |
| | R333 | QRD167J-184 | 180K | 1/6W | CARBON | |
| | R334 | QRD167J-184 | 180K | 1/6W | CARBON | |
| | R335 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R336 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R337 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R338 | QRD167J-104 | 100K | 1/6W | CARBON | |
| | R363 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R364 | QRD167J-471 | 470 | 1/6W | CARBON | |
| | R401 | QRD167J-823 | 82K | 1/6W | CARBON | |
| | R402 | QRD167J-823 | 82K | 1/6W | CARBON | |
| | R403 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R404 | QRD167J-103 | 10K | 1/6W | CARBON | |
| | R501 | QVD887C-E15B | 100K | | VARIABLE | |
| | R503 | QRD167J-203 | 20K | 1/6W | CARBON | |
| | R504 | QRD167J-203 | 20K | 1/6W | CARBON | |
| | R505 | QRD167J-362 | 3.6K | 1/6W | CARBON | |
| | R506 | QRD167J-362 | 3.6K | 1/6W | CARBON | |
| | R511 | QVD887C-E15B | 100K | | VARIABLE | |
| | R513 | QRD167J-472 | 4.7K | 1/6W | CARBON | |
| | R514 | QRD167J-472 | 4.7K | 1/6W | CARBON | |
| | R515 | QRD167J-821 | 820 | 1/6W | CARBON | |
| | R516 | QRD167J-821 | 820 | 1/6W | CARBON | |

⚠ : SAFETY PARTS

## Others

| ⚠ | ITEM | PART NUMBER | DESCRIPTION | AREA |
|---|---|---|---|---|
| | | E11944-004 | CIRCUIT BOARD | |
| | | E305983-001 | HOLDER | |
| | | E65508-002 | TAB | |
| ⚠ | | QSR0085-009 | VOLTAGE SELECTOR | F |
| ⚠ | J001 | QMC0637-004 | AC OUTLET | F |
| | J101 | EMN00TV-408A | 4P PIN JACK | |
| | J102 | EMN00TV-407A | 4P PIN JACK | |
| | J103 | EMN00TV-407A | 4P PIN JACK | |
| | J104 | EMN00TV-408A | 4P PIN JACK | |
| | L301 | EQL4004-270 | INDUCTOR | E |
| | L302 | EQL4004-270 | INDUCTOR | E |
| | L303 | EQL4004-220 | INDUCTOR | E |
| | L304 | EQL4004-220 | INDUCTOR | E |
| | S101 | QSS1J46-E01 | SLIDE SWITCH | |
| | S201 | ESP0001-018 | TACT SWITCH | |
| | S202 | ESP0001-018 | TACT SWITCH | |
| | S203 | ESP0001-018 | TACT SWITCH | |
| | S204 | ESP0001-018 | TACT SWITCH | |
| | S205 | ESP0001-018 | TACT SWITCH | |
| | S206 | QSTL451-E01 | PUSH SWITCH | |
| | S210 | QSTL101-E05 | PUSH SWITCH | |
| | S401 | QSTL101-E01 | PUSH SWITCH | |
| | FW104 | EWR23C-35NN | FLAT WIRE | |
| | FW105 | EWR23C-30NN | FLAT WIRE | |
| | FW106 | EWR33B-35SST | FLAT WIRE | |
| | FW109 | EWR39B-20LST | FLAT WIRE | |
| | FW110 | EWR23C-40NN | FLAT WIRE | |
| | FW111 | EWR23C-16NN | FLAT WIRE | |
| | FW113 | EWR34B-20SST | FLAT WIRE | |
| | FW401 | EWR35B-20SST | FLAT WIRE | |
| | FW701 | EWR23C-13LN | FLAT WIRE | |
| | FW702 | EWR33B-13LST | FLAT WIRE | |
| | FW703 | EWR37B-40LST | FLAT WIRE | |
| | FW801 | EWR33B-10LST | FLAT WIRE | |
| | FW802 | EWR33B-20LST | FLAT WIRE | |
| | JT109 | EMV7122-004 | CONNECTOR | |
| | JT110 | EMV7122-005 | CONNECTOR | |
| | RT006 | E67764-302 | WRAPPING TERMINAL | F |
| | RT007 | E67764-303 | WRAPPING TERMINAL | F |
| | RT008 | E67764-303 | WRAPPING TERMINAL | F |
| | RT009 | E67764-303 | WRAPPING TERMINAL | F |
| | RT010 | E67764-402 | WRAPPING TERMINAL | F |

⚠ : SAFETY PARTS

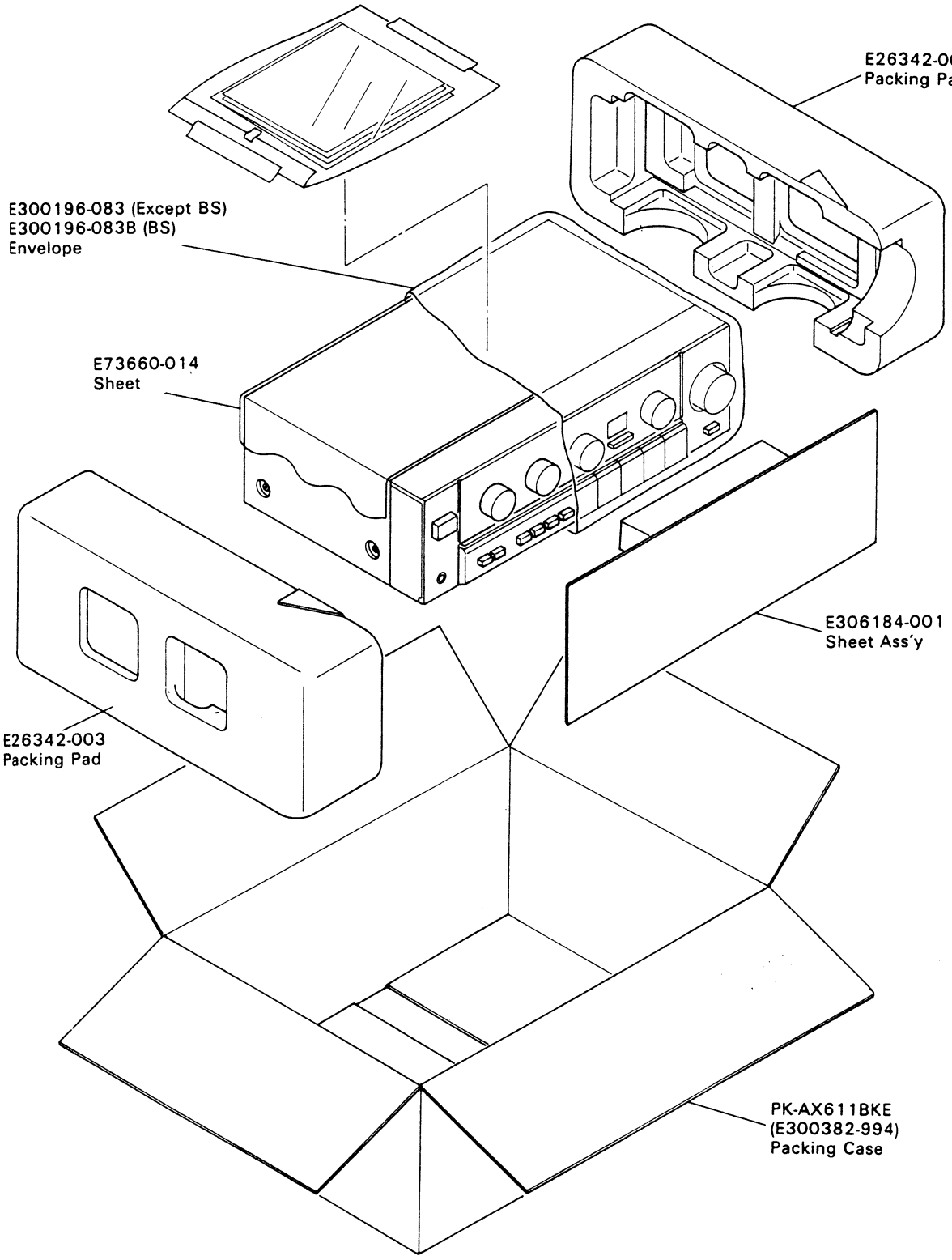
# Accessories List

| ⚠ | Part Number | Part Name | Q'ty | Description | Areas |
|---|---|---|---|---|---|
| | E30580-1518A | Instruction Book | 1 | | Except BS |
| | E30580-1518ABS | Instruction Book | 1 | | BS |
| | BT20025K | Warranty Card | 1 | | C |
| | BT20029C | Warranty Card | 1 | for Australia | A |
| | BT20098 | Warranty Card | 1 | for New Zealand | A |
| | BT20064A | Warranty Card | 1 | | G |
| | BT20060 | Warranty Card | 1 | | BS |
| | BT20066A | EEC Agency | 1 | | G , BS |
| | BT20071A | Service Center Rist | 1 | | C |
| | BT20044F | Safety Instruction Sheet | 1 | | J |
| | E43486-340A | Safety Sheet | 1 | | BS |
| | QZL1008-001 | FTZ Information Sheet | 1 | | G |
| | E72360-001 | Caution Sheet | 1 | | C |
| | BT20048C | Warranty Card | 1 | | J |
| | BT20108 | Service Information | 1 | | J |
| | E66416-003 | Envelope | 1 | for Warranty Card | J |
| ⚠ | E04056 | Siemens Plug | 1 | | U |
| | E35497-019 | Caution Sheet | 1 | | U |
| | E41202-2 | Envelope | 1 | | Except BS |
| | E41202-2B | Envelope | 1 | | BS |

⚠: Safety Parts

| The Marks for Designated Areas | |
|---|---|
| J·····the U.S.A | E , EF····· Continental Europe |
| C·····Canada | BS····· the U.K. |
| A·····Australia | U·····Other Countries |
| G·····West Germany | No mark indicates all areas. |

# Packing Materials and Part Numbers




| The Marks for Designated Areas | |
|---|---|
| J·····the U.S.A | E , EF····· Continental Europe |
| C·····Canada | BS····· the U.K. |
| A·····Australia | U·····Other Countries |
| G·····West Germany | No mark indicates all areas. |

# MEMO